

T X  
551  
F8

U. S. DEPARTMENT OF AGRICULTURE,  
OFFICE OF EXPERIMENT STATIONS,  
A. C. TRUE, Director.

DIETARY STUDIES OF NEGROES  
IN  
EASTERN VIRGINIA  
IN  
1897 and 1898.

BY  
H. B. FRISSELL, D. Sc.,  
*Principal of the Hampton Normal and Agricultural Institute,*

AND  
ISABEL BEVIER,  
*Professor of Chemistry at Lake Erie College.*



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1899.



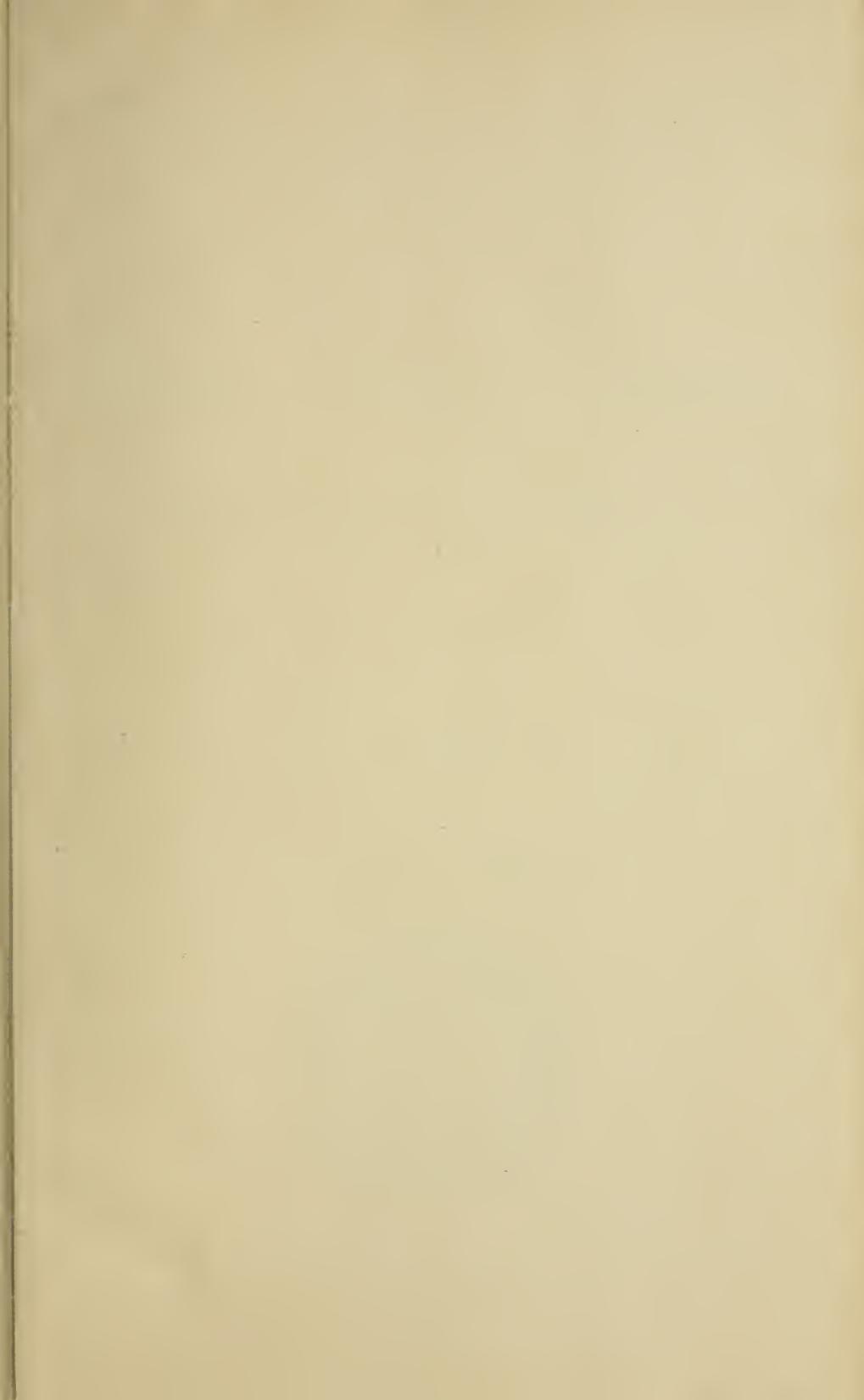


Class TX 551

Book F8









U. S. DEPARTMENT OF AGRICULTURE,  
OFFICE OF EXPERIMENT STATIONS,  
A. C. TRUE, Director.

5-20

# DIETARY STUDIES OF NEGROES IN EASTERN VIRGINIA

1897 and 1898.

BY

H. B. FRISSELL, D. D.,

*Principal of the Hampton Normal and Agricultural Institute,*

AND

ISABEL BEVIER,

*Professor of Chemistry at Lake Erie College.*



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.

1899.

copy 2



LETTER OF TRANSMITTAL.

---

U. S. DEPARTMENT OF AGRICULTURE,  
OFFICE OF EXPERIMENT STATIONS,  
*Washington, D. C., October 10, 1899.*

SIR: I have the honor to transmit herewith a report on dietary studies made among the negroes of eastern Virginia in 1897 and 1898. The studies made in 1897 were conducted under the direction of H. B. Frissell, D. D., principal of the Hampton Normal and Agricultural Institute. They were confined to families living in the region bordering the Dismal Swamp, where the style of living was very primitive and the income usually quite limited. The investigations in 1898 were conducted by Miss Isabel Bevier, professor of chemistry at Lake Erie College. The region selected was in the neighborhood of Hampton, Va. Some of the families studied had been under the influence of the Hampton Institute and were quite well to do. Others had received no such training, and were believed to be fairly representative of negroes with very limited means and little or no education.

These studies constitute a part of the nutrition investigations in charge of this Office. They were conducted under the immediate supervision of Prof. W. O. Atwater, special agent in charge of nutrition investigations, in accordance with instructions given by the Director of this Office. In carrying on the work, Mr. W. F. Schultz rendered valuable assistance to Dr. Frissell in the collection of the statistics on which the studies are based.

The report is respectfully submitted, with the recommendation that it be published as Bulletin No. 71 of this Office.

Respectfully,

A. C. TRUE,  
*Director.*

Hon. JAMES WILSON,  
*Secretary of Agriculture.*



## CONTENTS.

---

	Page.
<b>DIETARY STUDIES AMONG THE NEGROES IN 1897 .....</b>	<b>7</b>
Introduction .....	7
General conditions .....	7
Character of the food .....	8
Waste .....	9
Details of the dietary studies .....	9
Explanation of tables .....	9
Dietary studies of negro families near Franklin, Va.....	10
Dietary study No. 211 .....	10
Dietary study No. 212 .....	11
Dietary study No. 213 .....	12
Dietary study No. 214 .....	14
Dietary study No. 215 .....	15
Dietary study No. 216 .....	16
Dietary study No. 217 .....	17
Dietary study No. 218 .....	19
Dietary study No. 219 .....	20
Dietary study No. 220 .....	22
Dietary study No. 221 .....	23
Dietary study No. 222 .....	24
<b>DIETARY STUDIES AMONG THE NEGROES IN 1898 .....</b>	<b>27</b>
Introduction .....	27
Occupation .....	27
Homes and surroundings of the families studied .....	28
Bread .....	29
Composition of food materials .....	30
Waste .....	30
Details of the dietary studies .....	30
Dietary studies of negro families in or near Hampton, Va.....	30
Dietary study No. 234 .....	30
Dietary study No. 235 .....	32
Dietary study No. 236 .....	33
Dietary study No. 237 .....	34
Dietary study No. 238 .....	36
Dietary study No. 239 .....	36
Dietary study No. 240 .....	37
<b>DISCUSSION OF RESULTS .....</b>	<b>39</b>
<b>APPENDIX .....</b>	<b>43</b>

## ILLUSTRATIONS.

---

	Page.
PLATE I. Fig. 1.—House of negro farmer's family (dietary study No. 212).	
Fig. 2.—House of negro farmer's family (dietary study No. 214).	
Fig. 3.—House of negro farmer's family (dietary study No. 216).	
Fig. 4.—House of negro farmer's family (dietary study No. 217)...	10
II. Fig. 1.—House of negro bookkeeper (dietary study No. 234). Fig. 2.—	
Interior of house of negro bookkeeper (dietary study No. 234)....	30
III. Fig. 1.—Interior of house of negro family (dietary study No. 237).	
Fig. 2.—Interior of house of negro family (dietary study No. 239)..	34

# DIETARY STUDIES OF NEGROES IN EASTERN VIRGINIA.

---

## DIETARY STUDIES AMONG THE NEGROES IN 1897.

By H. B. FRISSELL, D. D.

---

### INTRODUCTION.

In the spring of 1897 a series of dietary studies among the negroes of Franklin County, Va., was made under the auspices of Hampton Institute, in cooperation with this Department. These studies were carried on for the purpose of obtaining some definite information concerning the actual food consumption of the negroes in this region of Virginia. The studies may be considered as a continuation of those made in the neighborhood of Tuskegee,<sup>1</sup> Ala., under the auspices of the Normal and Agricultural Institute, at Tuskegee, and of the Alabama Agricultural and Mechanical College, at Auburn, in cooperation with this Department.

The families studied were scattered over a large area of country, necessitating a daily round of some 15 miles. The outward trip was taken along the highways and the return trip made by plantation roads. More or less opposition was manifested by some of the white population toward the carrying on of these investigations among the negroes. It is often a difficult matter, and one requiring considerable tact, to explain the purpose of such investigation. There is a suspicion of interference, or some other prejudice is encountered. The opposition referred to seems to be of this nature and was overcome sufficiently to enable the investigators to conduct the work.

### GENERAL CONDITIONS.

The dietary studies were carried on in the region bordering the Great Dismal Swamp. The land in the vicinity was low and swampy, and malaria was exceedingly prevalent. The houses were small and constructed in a very crude and simple manner. They were, as a rule, board cabins, rather than log cabins like those found in the "Black Belt" of Alabama, where the dietary studies previously referred to were made. Few of the families studied had lamps or candles. The cabins were not lighted in the evening except by the open fireplace.

---

<sup>1</sup> U. S. Dept. Agr., Office of Experiment Stations Bul. 38.

The negroes in this vicinity obtain their living almost entirely from the soil. As a rule each family rents a small tract of land, quite generally of the size called a "one-mule farm," paying a part (sometimes as much as one-half) of their produce as rent. On the remainder of the produce, together with the income from what odd jobs can be obtained, the family must be supported. The farms are frequently so-called "dead-tree farms"—that is, they are cleared by killing the trees by girdling and removing the underbrush. The trees are not felled, and the soil is tilled among the dead trees. All adults, both men and women, work on the farm. Payment for labor is often made in "rations," i. e., in food materials. The staple crops are sweet potatoes, cotton, and peanuts. The crops obtained are usually small. Formerly tobacco was raised in this section, but the land has become so impoverished that tobacco is not successfully grown.

Nearly all the families studied had very little means. Notwithstanding the fact that food was in many cases none too abundant, most of the families kept a number of dogs and cats.

#### CHARACTER OF THE FOOD.

As among the negroes of Alabama, "hog and hominy" literally form the larger part of the diet. Side bacon is the principal meat, and, with some fish and a little milk, formed the major portion of the animal food. Large quantities of fish are obtained from the waters of the neighboring Chesapeake Bay and form an important source of food. Frogs, turtles, and even snakes were not infrequently eaten by some of the families at certain seasons of the year. Unbolted corn meal, costing about a cent a pound and containing a very large amount of bran, furnishes a large proportion of the nutriment of the diet. The coarse bran is removed by sifting, but the meal actually used still contains a large proportion. The bread is made simply of meal wet up, without salt or leavening material, and baked, as a rule, in the ashes ("ash cake").

Drinking water is almost invariably obtained from shallow surface wells, which are mere holes dug in the swampy land, with very rarely any side walls other than the clay of the soil. The water is, as a rule, stagnant and brackish, and often muddy.

The families selected for study were believed to be typical of the region, both in their food consumption and in their methods of cooking, etc. Cook stoves were unknown, all the cooking being done in the open fireplace, which was an important feature of all the cabins. Side bacon was almost invariably fried, as was, in fact, a large proportion of all the food. Pork shoulder and ham frequently were boiled.

No analyses of food materials were made, since they were not believed to be necessary. The composition of the more characteristic food materials has been assumed to be the same as corresponding materials found in use among the negroes in Alabama. Other materials were assumed to have the same composition as similar materials found in use elsewhere.

### WASTE.

In order to obtain a record of the actual amount of food consumed by these families, covered tin buckets were left with each family whose dietary was studied, in which they were instructed to place all refuse material and waste. Such material is usually fed to the dogs, cats, hens, or pigs. In order to prevent this during the investigation, a certain amount of food for these animals was furnished by those carrying on the study, thus insuring, it is thought, a satisfactory collection of the waste. As a rule this was very small and consisted largely of corn meal in some form.

### DETAILS OF THE DIETARY STUDIES.

The dietary studies, twelve in number, were carried on during the months of May and June, 1897. They were of from seven to thirty days' duration.

In conducting the investigation the usual methods<sup>1</sup> were followed. As previously stated, the food materials were not analyzed. In calculating the amounts of material consumed their composition was assumed from what were regarded as reliable data.

In calculating the amount eaten per man per day certain facts must be borne in mind. Different members of the family will not consume the same amounts of food. This factor depends not only upon the individual but upon the age, sex, and activity of the different persons. Women will, as a rule, eat less than men, and young children less than women. It is customary to use certain factors which represent the proportion and amount of food required by children of different ages, and by women, as compared with a man at moderately hard labor. These factors have been given in some detail in different publications of this series and need not be repeated in this connection.<sup>2</sup> They will be found in the computations of the number of meals eaten in the different dietary studies.

### EXPLANATION OF TABLES.

The tabular statement of the results of the dietary studies which follow is somewhat more condensed than has been given in many previous reports of such studies. The tables furnish, however, all the original data from which the results were computed, and the additional matter that has been sometimes included can be readily calculated, if desired, from the data furnished.

In each dietary study is shown the amount and cost of the different articles of food consumed by the family during the study. Following the amount and cost of each food material is a number in parentheses, which refers to the corresponding reference number in Table 21 in the

<sup>1</sup> U. S. Dept. Agr., Office of Experiment Stations Bul. 21.

<sup>2</sup> See list of publications on covers of this bulletin.

Appendix, showing the percentage composition used in the calculation of the total nutrients in each food material. The remaining columns of the table show the cost and the nutrients and fuel value per man per day. In order that the table may also show, in some degree, the amount of nutrients furnished by different classes of food materials, with the cost, these are grouped as follows: The leaner meats, as beef, veal, and mutton; the fatter meats, as pork; poultry; fish; eggs; dairy products; cereals and cereal products, as flour, meal, bread, etc.; potatoes; other vegetables; and fruits.

#### **DIETARY STUDIES OF NEGRO FAMILIES NEAR FRANKLIN, VA.**

The results of the twelve dietary studies made during 1897 in negro families residing near Franklin, Va., are summarized below.

##### **DIETARY STUDY NO. 211.**

This study began May 5, 1897, and continued 30 days. The family consisted of the father, 52 years of age, weighing 140 pounds; the mother, 60 years old, weighing 150 pounds; sister of the latter, 52 years of age, weighing 144 pounds; and a son, 28 years of age, weighing 140 pounds. The father was permanently lame and incapable of hard work. He cultivated 5 acres of land on shares, receiving two-thirds of the crop. He obtained about \$25 per year in cash for odd jobs. The mother was a midwife, earning about \$35 per year. Her sister was very feeble and unable to work. The son did odd jobs at farming, thus earning about \$70 per year. He also provided a large part of the food eaten by the family by hunting. The family used little or no beef, mutton, or other lean meats, as they believed that these made them ill. Muskrat, opossum, raccoon, and other game, fish, frogs, turtle, and even snakes in certain seasons, furnished part of the diet. Cash was paid for all food purchased, since the family could obtain no credit. They lived in a two-room house with 1 acre of ground surrounding it. There were no improvements, and the location was very unhealthful.

In addition to the food materials used, 48 cents' worth of green coffee and 4 cents' worth of salt were consumed during the study. The number of meals taken was as follows:

	Meals.
Two men .....	161
Two women (153 meals $\times$ 0.8 meal of man), equivalent to.....	122
Man visitor .....	6
Boy visitor, 13 years old (3 meals $\times$ 0.6 meal of man), equivalent to..	2
Woman visitor (7 meals $\times$ 0.8 meal of man), equivalent to.....	6
Total number of meals taken equivalent to.....	297
Equivalent to 1 man 99 days.	



FIG. 1.—HOUSE OF NEGRO FARMER'S FAMILY (DIETARY STUDY No. 212).



FIG. 3.—HOUSE OF NEGRO FARMER'S FAMILY (DIETARY STUDY No. 216).



FIG. 2.—HOUSE OF NEGRO FARMER'S FAMILY (DIETARY STUDY No. 214).



FIG. 4.—HOUSE OF NEGRO FARMER'S FAMILY (DIETARY STUDY No. 217).



The details of the dietary study follow:

TABLE 1.—*Dietary study of a negro family near Franklin, Va. (No. 211).*

[For explanation of numbers in parentheses, see Appendix, p. 43.]

Kinds and total amounts of food consumed during the study (30 days).	Cost and composition of food per man per day.				
	Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.
	Cents.	Grams.	Grams.	Grams.	Calories.
ANIMAL FOOD.					
Beef: Dried, 13 lbs., 35 cts. (8). Pork: Bacon, 14 lbs., \$1.21 (15); cracklings, 1 lb. 5 oz., 13 cts. (17); ham (6 per cent refuse), ½ lb., 6 cts. (18); salt sides (6.7 per cent refuse), 11 lbs. 5 oz., \$1.21 (25); shoulder (2 per cent refuse), 3 lbs. 2 oz., 32 cts. (27); lard, 2½ lbs., 23 cts. (21). Fish: Eel (26 per cent refuse), 6 oz., 26 cts. (35); catfish (14.3 per cent refuse), 3 lbs., 15 cts. (33); smoked herring (17.6 per cent refuse), 6 lbs. 11 oz., 8 cts. (37); mullet (8.8 per cent refuse), 5 lbs. 13 oz., 2 cts. (39); perch, 5 oz., 1 ct. (40); roach (16.7 per cent refuse), 2 lbs. 11 oz., 11 cts. (42); snapping turtle (17 per cent refuse), 13 lbs. 3 oz., 16 cts. (49). Dairy products: Sweet milk, 3½ lbs., 11 cts. (55); sour milk, 8 lbs., 4 cts. (55) .....	3.2	15	100	.....	991
Total animal food .....	4.5	52	114	2	1,280
VEGETABLE FOOD.					
Cereals: Corn meal (7 per cent refuse), 71½ lbs., 85 cts. (57); flour, 21 lbs. 14 oz., 74 cts. (61); bread, ½ lb., 1 ct. (63). Sugars and starches: Brown sugar, 6½ lbs., 33 cts. (68); granulated sugar, 6 lbs. 11 oz., 39 cts. (69). Potatoes: Sweet (4.5 per cent refuse), 21 lbs. 7 oz., 23 cts. (96). Vegetables: Cabbage (6.6 per cent refuse), 3½ lbs., 11 cts. (77); mustard salad (2.6 per cent refuse), 8 lbs. 2 oz., 8 cts. (86). Total vegetable food .....	1.6	42	17	315	1,622
Total food purchased .....	7.3	97	132	406	3,290
Waste: Animal .....	.....	1	1	.....	15
Vegetable .....	.....	1	.....	6	30
Total .....	.....	2	1	6	45
Total food eaten .....	7.3	95	131	400	3,245

DIETARY STUDY NO. 212.

This study, which began May 5, 1897, and continued 30 days, was made with a family consisting of the father, 27 years of age; the mother, 20 years of age; and one child 3 years of age. The weights of the members of the family were 140, 118, and 50 pounds, respectively. The house in which they lived consisted of one room and a loft. (Pl. I, fig. 1.) For this house and 5 acres of ground \$24 a year rent was paid, in addition to one-third of the crops. The soil, a sandy clay, was poor and unproductive. The father worked irregularly, obtaining "rations" as wages. These amounted in value to about \$100 in the course of a year. The mother took in some washing for which she also obtained "rations." No live stock was owned by the family and almost no farm implements. The meats used were very fat and were prepared for the table by frying. No beverages or accessories were purchased during the study, with the exception of 3 cents' worth of salt.

The number of meals taken was as follows:

	Meals.
Man .....	87
Woman (87 meals $\times$ 0.8 meal of man), equivalent to.....	69
Child (87 meals $\times$ 0.4 meal of man), equivalent to.....	35
Visitor .....	1

Total number of meals taken equivalent to ..... 192  
Equivalent to 1 man 64 days.

The dietary study is summarized in the following table:

TABLE 2.—*Dietary study of a negro family near Franklin, Va. (No. 212).*

[For explanation of numbers in parentheses, see Appendix, p. 43.]

Kinds and total amounts of food consumed during the study (30 days).	Cost and composition of food per man per day.				
	Cost.	Protein.	Fat.	Carbohy-drates.	Fuel value.
<b>ANIMAL FOOD.</b>					
Pork: Bacon, 5 lbs. 6 oz., 54 cts. (15); salt sides (0.9 per cent refuse), 17 lbs. 6 oz., \$1.76 (25).....	Cents. 3.6	Grams. 14	Grams. 114	Grams. ....	Calories. 1,116
Fish: Smoked herring (8.7 per cent refuse), 6 lbs. 4½ oz., 7 cts. (37) .....	.1	17	7	.....	134
Total animal food .....	3.7	31	121	.....	1,250
<b>VEGETABLE FOOD.</b>					
Cereals: Corn meal (5.4 per cent refuse), 53 lbs. 14 oz., 57 cts. (57); flour, 8 lbs. 11 oz., 35 cts. (61).....	1.4	41	19	326	1,681
Sugar and starches: Granulated sugar, 1 lb. 2 oz., 7 cts. (69) .....	.1	.....	.....	8	33
Potatoes: Sweet (17.8 per cent refuse), 20½ lbs. 25 cts. (96) .....	.4	2	1	40	181
Vegetables: Cabbage, 2½ lbs., 3 cts. (77); cabbage salad, 3 lbs. 2 oz., 3 cts. (79); collard sprouts, 2 lbs. 3 oz., 2 cts. (81); mustard greens, 1½ lbs. 2 cts. (85).....	.2	2	.....	3	20
Total vegetable food .....	2.1	45	20	377	1,915
Total food purchased .....	5.8	76	141	377	3,165
Waste: Vegetable .....	.....	.....	.....	5	20
Total .....	.....	.....	.....	5	20
Total food eaten.....	5.8	76	141	372	3,145

DIETARY STUDY No. 213.

This study, which was made with a family of five persons, began May 5, 1897, and continued 30 days. The family consisted of the father, 43 years of age, weighing 165 pounds; his stepson, 23 years of age, weighing 147 pounds, and three children—a girl 17 years old, a boy 15 years old, and a girl 13 years old—weighing 120, 115, and 115 pounds, respectively. The family was in good health. They occupied two log cabins, each with one room and a loft. The cabins were situated in 5 acres of ground on a slight rise of land. The rent paid was \$20 per year. They had a good well, but no sanitary arrangements. Peanuts and garden vegetables formed their principal crops, but the character of the soil

was such that large crops were not raised. They had a few farm implements and some live stock, namely, a cow, a steer, and pigs and chickens. The father earned about \$50 a year, and some "rations" in addition, as a farm hand. The stepson lived with them only part of the time. The older daughter kept house and also worked on the farm. The younger daughter attended school part of the year and also assisted on the farm. The boy earned \$10 per month working in a sawmill. In addition to the regular food materials mentioned below, 20 cents' worth of green coffee, 11 cents' worth of roasted coffee, 2 cents' worth of tea, 12 cents' worth of baking powder, and a very small amount of salt were used during the study.

The number of meals taken was as follows:

	Meals.
Two men.....	85
Woman (87 meals $\times$ 0.8 meal of man), equivalent to.....	69
Boy (89 meals $\times$ 0.8 meal of man), equivalent to .....	71
Girl (86 meals $\times$ 0.6 meal of man), equivalent to.....	52
Man visitor .....	2
Woman visitor (4 meals $\times$ 0.8 meal of man), equivalent to.....	3
Child visitor, 5 years old (3 meals $\times$ 0.4 meal of man), equivalent to..	1
Total number of meals taken equivalent to .....	283
Equivalent to 1 man 94 days.	

The following table shows the results of the study:

TABLE 3.—*Dietary study of a negro family near Franklin, Va. (No. 213).*

[For explanation of numbers in parentheses, see Appendix, p. 43].

Kinds and total amounts of food consumed during the study (30 days).	Cost and composition of food per man per day.				
	Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.
<b>ANIMAL FOOD.</b>					
Pork: Salt sides (1.1 per cent refuse), 25 lbs. 6 oz., \$2.56 (25); shoulder, 13 lbs. 9 oz., \$1.36 (27); lard, 6 lbs. 9 oz., 66 cts. (21).....	Cents. 4.9	Grams. 20	Grams. 141	Grams. -----	Calories. 1,392
Fish: Smoked herring (8.8 per cent refuse), 14½ lbs., 15 cts. (37).....	.1	26	11	-----	208
Total animal food .....	5.0	46	152	-----	1,600
<b>VEGETABLE FOOD.</b>					
Cereals: Corn meal, 32 lbs. 3 oz., 32 cts. (57); flour, 9½ lbs., \$3.51 (61).....	4.1	75	15	429	2,206
Sugars and starches: Granulated sugar, 8½ lbs., 51 cts. (69).....	.5	-----	-----	41	169
Potatoes: Sweet, 25½ lbs., 26 cts. (96).....	.3	2	1	34	157
Vegetables: Cabbage, 4 lbs. 13 oz., 5 cts. (77).....	.1	1	-----	1	9
Fruits: Dried apples, 3 oz., 1 ct. (101).....	-----	-----	-----	1	4
Total vegetable food .....	5.0	78	16	506	2,545
Total food purchased.....	10.0	124	168	506	4,145
Waste: Vegetable.....	-----	2	1	13	70
Total.....	-----	2	1	13	70
Total food eaten.....	10.0	122	167	493	4,075

This study, which began May 5, 1897, and continued 30 days, was made with a family consisting of the grandfather, 81 years of age; the father, 39 years of age, and his brother, 28 years of age; the mother, 24 years of age; an adopted daughter, aged 11 years; and three young children, a boy of 4, a boy of 2, and an infant 10 months old. The weights of the different members of the family were 150, 135, 175, 150, 51, 40, 25, and 14 pounds, respectively. The children in this family were in poor health. The infant died during the study and the two other children were very feeble. The family lived in a house consisting of two rooms and a loft (Pl. I, fig. 2). It was situated in 105 acres of ground, of which the father "owned the holding." They had a few farm implements and some live stock. Provisions were bought by the week in the market at Franklin, and payments were made each month. The grandfather, though feeble, worked on the farm. The father earned about \$150 a year teaching school, and in addition did such farm work as was available. His brother carried on the farm. The older children attended school. During the month covered by the study, 11 cents' worth of green coffee, 1 cent's worth of tea, 7 cents' worth of baking powder, 2 cents' worth of vinegar, and 1 cent's worth of salt were used in addition to the food materials.

The number of meals taken was as follows:

	Meals.
Three men .....	266
Woman (77 meals $\times$ 0.8 meal of man), equivalent to .....	61
Girl (86 meals $\times$ 0.6 meal of man), equivalent to .....	52
Two boys (172 meals $\times$ 0.4 meal of man), equivalent to .....	69
Infant (70 meals $\times$ 0.3 meal of man), equivalent to .....	21
Man visitor .....	6
Woman visitor (17 meals $\times$ 0.8 meal of man), equivalent to .....	14
 Total number of meals taken equivalent to .....	 489

Equivalent to 1 man 163 days.

The dietary study is summarized in the following table:

TABLE 4.—*Dietary study of a negro family near Franklin, Va. (No. 214).*

[For explanation of numbers in parentheses, see Appendix, p. 43].

Kinds and total amounts of food consumed during the study (30 days).	Cost and composition of food per man per day.				
	Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.
<b>ANIMAL FOOD.</b>					
Pork: Bacon (0.7 per cent refuse), 42 lbs. 2 oz., \$3.84 (15); ham (0.7 per cent refuse), 43 lbs., 56 cts. (18); salt sides, 21½ lbs., \$2.13 (25); shoulders (1.6 per cent refuse), 3 lbs. 11 oz., 44 cts. (27) .....	Cents. 4.3	Grams. 21	Grams. 130	Grams. ....	Calories. 1,296
Fish: Salt herring (10 per cent refuse), 61 lbs., 67 cts. (37); roach (6.8 per cent refuse), 13 oz., 3 cts. (42); snapping turtle (22.3 per cent refuse), 3 lbs. 11 oz., 5 cts. (49) .....	.4	65	27	.....	519
Total animal food .....	4.7	86	157	.....	1,815
<b>VEGETABLE FOOD.</b>					
Cereals: Corn meal (3.2 per cent refuse), 218 lbs. 9 oz., \$2.25 (57); flour, 55 lbs. 1 oz., \$1.91 (61) .....	2.6	73	32	559	2,889
Sugars and starches: Granulated sugar, 4 lbs. 14 oz., 29 cts. (69); brown sugar, 2 lbs., 10 cts. (68) ..	.3	.....	.....	19	78
Potatoes: Sweet, 2 lbs., 2 cts. (97) .....	.....	.....	.....	1	4
Vegetables: Cabbage (5.1 per cent refuse), 10 lbs. 7 oz., 11 cts. (77); mustard salad (25.9 per cent refuse), 8 lbs. 9 oz., 12 cts. (86) .....	.1	1	.....	3	16
Fruits: Dried apples, 14 oz., 4 cts. (101) .....	.....	.....	.....	2	8
Total vegetable food .....	3.0	74	32	584	2,995
Total food purchased.....	7.7	160	189	584	4,810
Waste: Vegetable .....	.....	1	.....	9	40
Total.....	.....	1	.....	9	40
Total food eaten.....	7.7	159	189	575	4,770

#### DIETARY STUDY No. 215.

This study covered 30 days, beginning May 6, 1897. The family consisted of the mother, 34 years of age; four daughters, 18, 14, 12, and 3 years of age, respectively; two sons, 10 and 5 years of age; and a farm laborer, 41 years of age. The weights of the members of the family were 135, 135, 120, 98, 30, 65, 50, and 145 pounds, respectively. The family lived in two cabins, with one room and a loft in each, on 25 acres of ground. They paid one-half their crops for rent. The farm laborer carried on the farm and received one-third of the remainder of the crops in payment. The mother, three daughters, and one son worked on the farm. The water supply was better than ordinarily found. The family owned a few farm implements and some live stock, including 1 steer, 1 mule, 1 cow and calf, and 2 pigs, besides some poultry. The house was made of rough boards put on perpendicularly, without weather strips; the chimney was built of dirt and sticks. The whole building was on piles, and the fowls and dogs occupied the space beneath it. A small log shed adjacent served as a barn. The family were clothed in rags. The oldest daughter was sick during most of the study. With the exception of 3 cents for salt, no money was spent for condiments during the time of the study.

The number of meals taken was as follows:

	Meals.
Man .....	88
Two women (178 meals $\times$ 0.8 meal of man), equivalent to .....	142
Girl, 14 years (27 meals $\times$ 0.7 meal of man), equivalent to .....	19
Girl, 12 years (88 meals $\times$ 0.6 meal of man), equivalent to .....	53
Boy, 10 years (88 meals $\times$ 0.6 meal of man), equivalent to .....	53
Boy, 5 years (90 meals $\times$ 0.4 meal of man), equivalent to .....	36
Child, 3 years (90 meals $\times$ 0.4 meal of man), equivalent to .....	36
Man visitor .....	8
Woman visitor (6 meals $\times$ 0.8 meal of man), equivalent to .....	5
Child visitor, 7 years (6 meals $\times$ 0.5 meal of man), equivalent to .....	3
Total number of meals taken equivalent to .....	443
Equivalent to 1 man 148 days.	

The details of the dietary study follow:

TABLE 5.—*Dietary study of a negro family near Franklin, Va. (No. 215).*

[For explanation of numbers in parentheses, see Appendix, p. 43.]

Kinds and total amounts of food consumed during the study (30 days).	Cost and composition of food per man per day.				
	Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.
<b>ANIMAL FOOD.</b>					
Pork: Bacon (0.3 per cent refuse), 10 lbs. 10½ oz., \$1.07 (15); jowl, 2½ lbs., 25 cts. (20); salt sides, 16 lbs. 6 oz., \$1.64 (25) .....	Cents. 2.0	Grams. 8	Grams. 63	Grams. -----	Calories. 620
Fish: Smoked herring (3.3 per cent refuse), 18 lbs. 3 oz., 19 cts. (37) .....	.1	21	9	-----	170
Total animal food .....	2.1	29	72	-----	790
<b>VEGETABLE FOOD.</b>					
Cereals: Corn meal (12.6 per cent refuse), 57 lbs. 3 oz., 66 cts. (57); corn bread, 1½ lbs., 1 ct. (62); flour, 29 lbs. 13 oz., \$1.06 (61) .....	1.2	28	10	197	1,016
Sugars and starches: N. O. molasses, 6½ lbs., 6 cts. (67); granulated sugar, 2 lbs. 1 oz., 12 cts. (69) .....	.1	-----	-----	20	82
Potatoes: 5 oz., 1 ct. (95) .....	-----	-----	-----	-----	-----
Legumes: Green peas (25.4 per cent refuse), 3 lbs. 13½ oz., 7 cts. (90) .....	-----	-----	1	2	13
Vegetables: Cabbage (2.5 per cent refuse), 7 lbs. 5 oz., 7 cts. (77); cabbage salad, 7 lbs. 9 oz., 8 cts. (79); kale, 3 lbs. 14 oz., 4 cts. (83); mustard salad, 4½ lbs., 5 cts. (86) .....	.2	2	-----	5	29
Total vegetable food .....	1.5	31	10	224	1,140
Total food purchased .....	3.6	60	82	224	1,930
<b>Waste:</b>					
Animal .....	-----	-----	2	-----	20
Vegetable .....	-----	1	-----	6	30
Total .....	-----	1	2	6	50
Total food eaten .....	3.6	59	80	218	1,880

#### DIETARY STUDY No. 216.

This study, which began May 6, 1897, and continued 30 days, was made with a family consisting of a man 71 years old, his wife 36 years old, and their two nieces, one of 22 and the other of 16 years. The weights of the family were 140, 130, 120, and 95 pounds, respectively. The man was rather feeble but did some work. The woman also was not in good health. The log cabin, containing one room and

a loft (Pl. I, fig. 3), in which they lived, was situated in a tract of 34 acres owned by the family. They also owned a small log barn and a few farm implements. Their live stock consisted of 1 ox and 4 pigs, besides a few chickens. The soil in the vicinity was a stiff clay and very wet. At the time of the study the family had 6 acres of corn planted which threatened to be a failure, and 4 acres of peanuts which promised a half crop. In addition they had one-half acre planted to garden truck. The well was not kept clean, and caught all the surface drainage. There were no sanitary arrangements. The total income of the family was small. No condiments or beverages were used, with the exception of 3 cents' worth of salt.

The number of meals taken was as follows:

	Meals.
Man .....	88
Two women (183 meals $\times$ 0.8 meal of man), equivalent to.....	133
Girl, 16 years (90 meals $\times$ 0.7 meal of man), equivalent to.....	63
Man visitor.....	1
Total number of meals taken equivalent to.....	285
Equivalent to 1 man 95 days.	

The following table shows the results of the dietary study:

TABLE 6.—*Dietary study of a negro family near Franklin, Va. (No. 216).*

[For explanation of numbers in parentheses, see Appendix, p. 43.]

Kinds and total amounts of food consumed during the study (30 days).	Cost and composition of food per man per day.				
	Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.
<b>ANIMAL FOOD.</b>					
Pork: Ham (10.4 per cent refuse), 1 lb. 13 oz., 26 cts. (18); salt sides (7.6 per cent refuse), 2½ lbs., \$2.62 (25); shoulder (9.2 per cent refuse), 7½ lbs., 86 cts. (27); sausage meat, ½ lb., 3 cts. (29); lard, 8 lbs. 11 oz., 87 cts. (21). . . . .	Cents. 4.9	Grams. 17	Grams. 140	Grams. . . . .	Calories. 1,371
Fish: Fresh perch (26.2 per cent refuse), 15 oz., 24 cts. (41) . . . . .	.2	1	—	—	4
Total animal food . . . . .	5.1	18	140	—	1,375
<b>VEGETABLE FOOD.</b>					
Cereals: Corn meal, 85 lbs. 11 oz., 86 cts. (57) . . . . .	.9	34	20	303	1,568
Sugars and starches: Granulated sugar, 1½ lbs., 8 cts. (69) . . . . .	.1	—	—	6	24
Vegetables: Cabbage salad (17.3 per cent refuse), 11 lbs. 6 oz., 14 cts. (79); mustard salad (11.9 per cent refuse), 2 lbs. 13 oz., 3 cts. (86) . . . . .	.2	3	—	4	29
Fruits: Dried apples, ½ lb., 1 ct. (101) . . . . .	—	—	—	1	4
Total vegetable food . . . . .	1.2	37	20	314	1,625
Total food . . . . .	6.2	55	160	314	3,000

#### DIETARY STUDY NO. 217.

This study, conducted with a family of two persons, began May 6, 1897, and continued 30 days. The family consisted of a man, 51 years of age, and his wife 45 years of age, who weighed 145 and 140 pounds, respectively. The family was in better circumstances than the majority of those studied. They occupied a four-room house built of boards (Pl. I, fig. 4), and there were several outbuildings, including a log

barn. The live stock consisted of 1 horse, 1 steer, 1 cow and calf, 10 pigs, and a considerable number of chickens. The pigs were raised on shares, the man owning half of them. The farm consisted of 30 acres of land, and one-third of the crop was paid as rent. The soil was medium clay, low-lying and wet. Eight acres were planted to corn, 3 acres to peanuts, 5 acres to cotton, and 1 acre to garden truck. Water was obtained from a fairly deep well on a neighboring knoll, and was better than the average. The man was considered a fairly good farmer. The income of the family was about \$165 per year. In addition to the food materials enumerated below, 3 cents' worth of roasted coffee, 4 cents' worth of baking powder, and 3 cents' worth of salt were used.

The number of meals taken was as follows:

	Meals.
Man .....	90
Woman ( $73 \times 0.8$ meal of man), equivalent to .....	58
Woman visitor ( $10 \times 0.8$ meal of man), equivalent to .....	8
Child visitor, 10 years.....	1
Total number of meals taken equivalent to .....	157

Equivalent to 1 man 52 days.

The details of the dietary study follow:

TABLE 7.—*Dietary study of a negro family near Franklin, Va. (No. 217).*

[For explanation of numbers in parentheses, see Appendix, p. 43.]

Kinds and total amounts of food consumed during the study (30 days).	Cost and composition of food per man per day.				
	Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.
<b>ANIMAL FOOD.</b>					
Pork: Jowl, 1 lb. 6 oz., 10 cts. (20); salt sides (4.9 per cent refuse), 8 lbs. 3 oz., 82 cts. (25); shoulder (10.3 per cent refuse), 15½ lbs., \$1.70 (27); sausage meat, 1 lb. 1½ oz., 22 cts. (29); lard, 5 lbs. 9 oz., 56 cts. (21) .....	6.6	30	154		1,554
Poultry: Chicken (11.7 per cent refuse), 1 lb. 7 oz., 26 cts. (30) .....	.5	2	2		27
Fish: Smoked herring (8.4 per cent refuse), 10½ lbs., 12 cts. (37) .....	.2	35	15		283
Eggs, 5½ lbs., 30 cts. (50) .....	.6	6	5		71
Dairy products: Milk, 99½ lbs., \$3.49 (55) .....	6.7	29	35	43	620
Total animal food .....	14.6	102	211	43	2,555
<b>VEGETABLE FOOD.</b>					
Cereals: Corn meal (7.4 per cent refuse), 35 lbs. 6 oz., 38 cts. (57); flour, 29 lbs. 11 oz., \$1.19 (61) .....	3.0	62	19	413	2,125
Sugars and starches: Granulated sugar, 5 lbs. 10½ oz., 34 cts. (69) .....	.6			49	201
Potatoes: Sweet (1.2 per cent refuse), 39 lbs. 13 oz., 40 cts. (96) .....	.8	6	2	95	433
Legumes: String beans, 1½ lbs., 3 cts. (75) .....	.1			1	4
Vegetables: Cabbage, 6½ lbs., 7 cts. (78); mustard salad, 5 lbs. 6 oz., 5 cts. (86); onions, 3 lbs. 15 oz., 12 cts. (88); sweet pickles, 14 oz., 2 cts. (93) .....	.5	4	1	10	67
Fruits: Canned blackberries, 2 lbs. 5 oz., 15 cts. (102) .....	.3			11	45
Total vegetable food .....	5.3	72	22	579	2,875
Total food purchased .....	19.9	174	233	622	5,430
<b>Waste:</b>					
Animal.....		1	2		20
Vegetable .....		4	2	5	60
Total .....		5	4	5	86
Total food eaten .....	19.9	169	229	617	5,350

This study covered 30 days, beginning May 10, 1897. The family consisted of the father, 65 years of age; the mother, 48 years of age; four sons, aged respectively 15, 12, 8, and 5 years; two daughters, aged respectively 14 and 10 years, and a grandson a year and a half old. The weights of the family were 150, 145, 100, 75, 45, 35, 102, 55, and 25 pounds, respectively. The house in which they lived was a rough board cabin with two rooms and a loft, built on piles. There was also a log barn and dirt smokehouse. There were no sanitary conveniences. Four acres of land went with the house and \$30 a year rent was paid for house and land; in addition, 11 acres were worked on shares, one-third of the crop being paid. The soil was wet clay. Three acres were planted to corn, 3 to peanuts, 1 to sweet potatoes, and the remainder to cotton and garden truck. The live stock consisted of 1 blind mule, 2 pigs, and several chickens. The only farm implement was an old plow. The two oldest boys and the older girl assisted on the farm. The mother was in poor health. The income of the family was about \$150 per year. Their condition seemed above the average. In addition to the food materials, 44 cents' worth of green coffee, 1 cent's worth of pepper, 4 cents' worth of baking powder, and 3 cents' worth of salt were used.

The number of meals taken was as follows:

	Meals.
Man .....	89
Woman (84 meals $\times$ 0.8 meal of man), equivalent to .....	67
Boy, 15 years (75 meals $\times$ 0.8 meal of man), equivalent to .....	60
Boy, 12 years (72 meals $\times$ 0.6 meal of man), equivalent to .....	43
Boy, 8 years (90 meals $\times$ 0.5 meal of man), equivalent to .....	45
Boy, 5 years (88 meals $\times$ 0.4 meal of man), equivalent to .....	35
Girl, 14 years (85 meals $\times$ 0.7 meal of man), equivalent to .....	59
Girl, 10 years (87 meals $\times$ 0.6 meal of man), equivalent to .....	52
Child, 1½ years (88 meals $\times$ 0.3 meal of man), equivalent to .....	26
Total number of meals equivalent to .....	476
Equivalent to 1 man 159 days.	

Following are the results of the dietary study:

TABLE 8.—*Dietary study of a negro family near Franklin, Va. (No. 218).*

[For explanation of numbers in parentheses, see Appendix, p. 43.]

Kinds and total amounts of food consumed during the study (30 days).	Cost and composition of food per man per day.				
	Cost.	Protein.	Fat.	Carbohy-drates.	Fuel value.
<b>ANIMAL FOOD.</b>					
Pork: Native bacon (1.6 per cent refuse), 23 lbs. 15 oz., \$2.39 (25); Chicago bacon, 6 lbs. 14 oz., 69 cts. (15); shoulder (2 per cent refuse), 14 lbs. 11 oz., \$1.47 (27) . . . . .	Cents. 2.8	Grams. 14	Grams. 76	Grams. . . . .	Calories. 765
Fish: Smoked herring (10 per cent refuse), 15 lbs. 10 oz., 16 cts. (37); roach, 1 lb. 14 oz., 8 cts. (43) . . . . .	.2	17	7	. . . . .	135
Total animal food . . . . .	3.0	31	83	. . . . .	900
<b>VEGETABLE FOOD.</b>					
Cereals: Corn meal (5.1 per cent refuse), 138 lbs. 3 oz., \$1.58 (57); flour, 10 lbs. 5 oz., 41 cts. (61) . . . . .	1.3	42	22	355	1,832
Sugars and starches: Sugar, 6½ lbs., 39 cts. (60) . . . . .	.2	. . . . .	. . . . .	18	74
Vegetables: Cabbage (8.3 per cent refuse), 2½ lbs., 3 cts. (77); cabbage salad, 1½ lbs., 1 ct. (79); mustard salad, ½ lb., 1 ct. (86) . . . . .	. . . . .	. . . . .	. . . . .	1	4
Total vegetable food . . . . .	1.5	42	22	374	1,910
Total food . . . . .	4.5	73	105	374	2,810
Waste: Vegetable . . . . .	. . . . .	3	2	31	160
Total . . . . .	. . . . .	3	2	31	160
Total food eaten . . . . .	4.5	70	103	343	2,650

## DIETARY STUDY No. 219.

This study began May 6, 1897, and continued 30 days. The family consisted of a man 38 years of age, his wife 40 years of age, and a great aunt said to be 102 years of age. The weights of the individuals were 176, 136, and 120 pounds, respectively. They lived in a very old clapboarded house with brick chimney, containing two rooms and a loft, and situated in a tract of 15 acres of land, which was owned by the family. In addition to the house the premises contained a small barn and smokehouse, chicken house, and work shed, all of logs. The water supply was from an unusually deep well. The live stock consisted of 1 horse, 1 steer, 2 cows, 1 calf, 6 pigs, and a considerable number of chickens. The family also owned quite a number of farm implements. The soil was a dark clay loam. Not far from 1½ acres were planted to cotton and garden truck, the remainder of the land being about equally divided between corn and peanuts.

During the time of the study the family used 11 cents' worth of green coffee, 8 cents' worth of roasted coffee, 1 cent's worth of tea, 2 cents' worth of pepper, 5 cents' worth of lemon extract, 1 cent's worth of vinegar, 8 cents' worth of baking powder, 6 cents' worth of yeast, and 4 cents' worth of salt.

The number of meals taken was as follows:

	Meals.
Man .....	90
Two women (174 meals $\times$ 0.8 meal of man), equivalent to .....	140
Man visitor .....	1
Woman visitor (13 meals $\times$ 0.8 meal of man), equivalent to .....	10
Child visitor, 3 years (6 meals $\times$ 0.4 meal of man), equivalent to .....	2
Child visitor, 1 year (3 meals $\times$ 0.3 meal of man), equivalent to .....	1
Total number of meals taken, equivalent to .....	244

Equivalent to 1 man 81 days.

The following table gives the details of the dietary study:

TABLE 9.—*Dietary study of a negro family near Franklin, Va. (No. 219).*

[For explanation of numbers in parentheses, see Appendix, p. 43.]

Kinds and total amounts of food consumed during the study (30 days).	Cost and composition of food per man per day.				
	Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.
<b>ANIMAL FOOD.</b>					
Beef: Flank, 5½ lbs., 17 cts. (2); kidney fat, 9 lbs. 5 oz., 28 cts. (3); liver, 4½ lbs., 3 cts. (4); shoulder bone (50 per cent refuse), 2 lbs. 1 oz., 12 cts. (7); scraps (3.6 per cent refuse), 6 lbs. 14 oz., 22 cts. (6).					
Pork: "Chittlings," 1 lb. 2 oz., 1 ct. (16); ham (1.5 per cent refuse), 3 lbs. 15 oz., 40 cts. (18); haslet, 2 lbs., 6 cts. (22); liver, 1½ lbs., 3 cts. (22); salt sides (2.3 per cent refuse), 9 lbs. 2 oz., 93 cts. (25); cured shoulder (9.5 per cent refuse), 13 lbs. 10 oz., \$1.50 (27); lard, 3 lbs. 9 oz., 36 cts. (21).....	1.0	22	58	.....	629
Fish: Smoked herring (9.5 per cent refuse), 8 lbs. ½ oz., 8 cts. (37).....	4.1	24	96	.....	991
Eggs (14.8 per cent refuse), 5 lbs. 2 oz., 30 cts. (50).....	.1	17	7	.....	135
Dairy products: Butter, ¼ lb., 6 cts. (52); milk, 116½ lbs., \$4.09 (55).....	.4	4	3	.....	44
Total animal food .....	5.1	22	27	33	476
	10.7	89	191	33	2,275
<b>VEGETABLE FOOD.</b>					
Cereals: Corn meal (8.3 per cent refuse), 67 lbs. 13 oz., 68 cts. (57); corn bread, 2 lbs. 9 oz., 3 cts. (62); sponge cake, ½ lb., 2 cts. (65); flour, 26 lbs. 7 oz., \$1.06 (61).....	2.2	54	21	395	2,036
Sugars and starches: Sugar, 7½ lbs., 44 cts. (69); New Orleans molasses, 3 lbs. 11 oz., 3 cts. (67).....	.6	.....	.....	55	226
Potatoes: Sweet (22.9 percent refuse), 33 lbs. 11 oz., 44 cts. (96).....	.5	4	1	52	237
Vegetables: Cabbage (8.4 per cent refuse), 7 lbs. 6 oz., 8 cts. (77); cabbage salad (23.5 per cent refuse), 2 lbs. 7 oz., 4 cts. (79); onions (18.2 per cent refuse), 4½ lbs., 18 cts. (87); artichoke pickles, ½ lb., 4 cts. (92); cucumber pickles, 2 lbs. 6 oz., 23 cts. (93); canned tomatoes, 2 lbs. 2 oz., 11 cts. (98); collards (25.4 per cent refuse), 1 lb. 5 oz., 2 cts. (80).....	.9	2	1	7	46
Fruits: Apples, 10 oz., 1 ct. (100); cherries (3.4 per cent refuse), 1 lb. 11 oz., 4 cts. (103); preserved citron, 5 lbs. 15 oz., 30 cts. (104); huckleberries, 2 lbs. 2 oz., 11 cts. (105); canned peaches, 2 lbs. 5 oz., 11 cts. (108); dried pears, 8 lbs. 7 oz., 51 cts. (111); canned pears, 1 lb. 3 oz., 5 cts. (110); strawberries (9.1 per cent refuse), 1 lb. 14 oz., 8 cts. (112).....	1.5	1	2	64	285
Total vegetable food .....	5.7	61	25	573	2,830
Total food purchased.....	16.4	150	216	606	5,105
<b>Waste:</b>					
Animal.....					5
Vegetable .....		10	6	90	465
Total.....		10	6	90	470
Total food eaten.....	16.4	140	210	516	4,635

## DIETARY STUDY No. 220.

This study, which began May 7, 1897, and continued 30 days, was made with a family consisting of a man 30 years old, and his wife, 29 years old, weighing respectively 130 and 92 pounds. They lived in a two-roomed log cabin, situated in a tract of 20 acres of land, which was worked on half shares. The place was surrounded by heavy timber. The water supply was from a very poor shallow well containing nothing but surface water. There were no sanitary arrangements. The live stock included 1 cow, 7 pigs, and considerable poultry. Farm implements of good quality and in sufficient quantity were furnished by the owner of the land. The soil was a heavy clay and fairly productive, being recently cleared land. About equal areas were planted to corn and peanuts, and 1 acre was planted to garden truck. The condition of this family was considerably above the average in the region. During this study 9 cents' worth of green coffee, 5 cents' worth of baking powder, 1 cent's worth of salt, and 12 cents' worth of yeast were used in addition to the food materials.

The number of meals taken was as follows:

	Meals.
Man .....	87
Woman (84 meals $\times$ 0.8 meal of man), equivalent to .....	67
Man visitor .....	1
Child visitor, about 14 years of age (4 meals $\times$ 0.8 meal of man), equivalent to .....	3
Total number of meals taken equivalent to .....	158
Equivalent to 1 man 53 days.	

The details of the dietary study are shown in the following table:

TABLE 10.—*Dietary study of a negro family near Franklin, Va. (No. 220).*

[For explanation of numbers in parentheses, see Appendix, p. 43.]

Kinds and total amounts of food consumed during the study (30 days).	Cost and composition of food per man per day.				
	Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.
ANIMAL FOOD.					
Pork: Salt sides (0.8 per cent refuse), 19 lbs., \$1.90 (25); cured shoulder (1.9 per cent refuse), 9 lbs. 15 oz., \$1.02 (27); lard, 6 lbs. 6 oz., 64 cts. (21).....	Cents. 6.7	Grams. 27	Grams. 199	Grams. ....	Calories. 1,960
Eggs, 3 oz., 1 ct. (51) .....	(a) .....	.....	.....	.....	.....
Total animal food .....	6.7	27	199	.....	1,960
VEGETABLE FOOD.					
Cereals: Corn meal (8.5 per cent refuse), 50 lbs. 7 oz., 55 cts. (57); flour, 46 lbs. 11 oz., \$1.64 (61) .....	4.1	93	28	604	3,118
Sugars and starches. Sugar, 3 lbs. 13 oz., 23 cts. (69) .....	.4	.....	.....	33	135
Potatoes: Sweet, 1 lb. 2 oz., 1 ct. (97) .....	.....	.....	.....	2	8
Vegetables: Cabbage (13.6 per cent refuse), 3 lbs. 5 oz., 4 cts. (77); mustard salad (6.3 per cent refuse), 1 lb. 15 oz., 2 cts. (86); onions (36.4 per cent refuse), 1 lb. 5 cts. (87); turnip salad (5.3 per cent refuse), 1 lb. 1 oz., 1 ct. (99) .....	.3	2	.....	5	29
Fruits: Strawberries, 5 oz., 2 cts. (112) .....	(a) .....	.....	.....	.....	.....
Total vegetable food .....	4.8	95	28	644	3,290
Total food purchased .....	11.5	122	227	644	5,250
Waste: Vegetable .....	.2	5	2	36	185
Total .....	.2	5	2	36	185
Total food eaten .....	11.3	117	225	608	5,065

a Quantity too small to affect results per man per day.

This study, which began May 7, 1897, covered 30 days. The family consisted of the mother, 46 years of age; three daughters, aged 21, 19, and 17 years, respectively; a grandson of 6, and a granddaughter of 3 years of age. Their weights were 140, 136, 125, 134, 70, and 50 pounds, respectively. The family owned 3 acres of land and a log cabin containing two rooms and two lofts. With the exception of a little log kitchen there were no outbuildings. The land was surrounded by forests. The well was brackish and the supply of water very insufficient. The live stock included 2 cows, 2 steers, 1 pig, and considerable poultry. The soil was a heavy wet clay and was planted mostly to sweet potatoes. A little corn and a few peanuts were raised, and there was a small kitchen garden. All the women worked in the fields. During the study 3 cents' worth of baking powder and 2 cents' worth of salt were used in addition to the food materials enumerated in Table 11.

The total number of meals taken was as follows:

	Meals.
Three women (261 meals $\times$ 0.8 meal of man), equivalent to.....	209
Girl, 17 years (87 meals $\times$ 0.7 meal of man), equivalent to.....	61
Boy, 6 years (88 meals $\times$ 0.5 meal of man), equivalent to.....	44
Girl, 3 years (89 meals $\times$ 0.4 meal of man), equivalent to.....	35
Boy visitor, 16 years.....	3
Total number of meals taken equivalent to .....	352
Equivalent to 1 man 117 days.	

The table below summarizes the results of the dietary study:

TABLE 11.—*Dietary study of a negro family near Franklin, Va. (No. 221).*

[For explanation of numbers in parentheses, see Appendix, p. 43.]

Kinds and total amounts of food consumed during the study (30 days).	Cost and composition of food per man per day.				
	Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.
<b>ANIMAL FOOD.</b>					
Pork: Salt sides (1.4 per cent refuse), 22 lbs. 13 oz., \$2.28 (25); cured shoulder 2 lbs., 20 cts. (26); lard, 12½ lbs., \$1.25 (21).....	Cents. 3.1	Grams. 8	Grams. 114	Grams. -----	Calories. 1,093
Fish: Smoked herring (8.7 per cent refuse), 33 lbs. 15 oz., 39 cts. (37); perch, ¼ lb., 1 ct. (40); roach, 1 lb. 14 oz., 7 cts. (43).....	.4	56	24	-----	453
Eggs, 1½ lbs., 6 cts. (51).....	.1	1	-----	-----	4
Total animal food .....	3.6	65	138	-----	1,550
<b>VEGETABLE FOOD.</b>					
Cereals: Corn meal (5.3 per cent refuse), 53 lbs. 11 oz., 62 cts. (57); flour, 52 lbs. 1 oz., \$2.03 (61).....	2.3	48	15	312	1,615
Sugars and starches: Sugar, 5 lbs., 30 cts. (69).....	.2	-----	-----	19	73
Potatoes: Sweet (3.1 per cent refuse), 5 lbs. 14 oz., 6 cts. (96).....	.1	-----	-----	6	25
Vegetables: Cabbage (31.7 per cent refuse), 2 lbs. 9 oz., 3 cts. (77); mustard salad, 3 lbs. 11 oz., 4 cts. (86).....	.1	1	-----	2	12
Total vegetable food .....	2.7	49	15	339	1,730
Total food purchased and eaten <i>a</i> .....	6.3	114	153	339	3,230

*a* There was no waste.

This study began May 7, 1897, and continued 30 days. The family consisted of a man 26 years old; his wife, 23 years old; and a farm laborer, 16 years old. Their weights were 120, 102, and 110 pounds, respectively. The family lived in a rough-board cabin, containing one room and a loft. It was situated in a tract of 25 acres of land. One-third of the crops was paid as rent. Besides the log cabin there was a small log barn, a log kitchen 6 by 8 feet, and a log smokehouse of the same size. The water supply was as usual from an ordinary shallow surface well. The husband carried on the farm work. The wife earned something by washing and ironing. The live stock consisted of 1 cow, 1 steer, 1 horse, 2 calves, and 5 pigs, besides chickens and turkeys. They also owned a number of farm implements. The soil was a light sandy clay. About 7 acres were planted to corn, 7 acres to peanuts, an equal amount to cotton, 2 acres to sweet potatoes, and the remainder, about 2 acres, to garden truck. The husband earned, above expenses, about \$100 a year and the woman \$30. The farm hand, a boy, was hired for \$6 per month and board. The condition of this family was rather above the average in the vicinity. In addition to the food materials enumerated below, 3 cents' worth of salt, 1 cent's worth of soda, and 7 cent's worth of yeast were used during the study.

The number of meals taken was as follows:

	Meals.
Man .....	88
Woman (87 meals $\times$ 0.8 meal of man), equivalent to .....	69
Boy (86 meals $\times$ 0.8 meal of man), equivalent to .....	69
Man visitor .....	2
Woman visitor (9 meals $\times$ 0.8 meal of man), equivalent to .....	7
Children visitors, about 11 years (3 meals $\times$ 0.6 meal of man), equivalent to .....	2
Total number of meals taken equivalent to .....	237
Equivalent to 1 man 79 days.	

In the table below the results of the dietary study are shown.

TABLE 12.—*Dietary study of a negro family near Franklin, Va. (No. 222).*

[For explanation of numbers in parentheses, see Appendix, p. 43.]

Kinds and total amounts of food consumed during the study (30 days).	Cost and composition of food per man per day.				
	Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.
<b>ANIMAL FOOD.</b>					
Pork: Salt sides (0.8 per cent refuse), 14 lbs. 10 oz., \$1.46 (25); shoulder (0.9 per cent refuse), 6 lbs. 7 oz., 65 cts. (26); lard, 7 lbs. 9 oz., 76 cts. (21).....	Cents. 3.6	Grams. 11	Grams. 113	Grams.	Calories. 1,095
Fish: Smoked herring (16.4 per cent refuse) 14 lbs., 17 cts. (37); salted fish (8.3 per cent refuse), 2 lbs. 6 oz., 3 cts. (44); roach, 23 lbs., 11 cts. (43).....	.4	34	16	.....	288
Eggs, 2 lbs. 7 oz., 13 cts. (50).....	.2	2	2	.....	26
Dairy products: Milk, 115 lbs. 5 oz., \$4.04 (55).....	5.1	22	27	33	476
Total animal food .....	9.3	69	158	33	1,885
<b>VEGETABLE FOOD.</b>					
Cereals: Corn meal (5.7 per cent refuse), 34 lbs. 14 oz., 37 cts. (57); hominy, 10 lbs. 10 oz., 13 cts. (58); flour, 34 lbs. 15 oz., \$1.36 (61).....	2.4	50	13	339	1,716
Sugars and starches: Granulated sugar, 8 lbs. 5 oz., 50 cts. (69).....	.6	.....	.....	48	197
Potatoes: Sweet (16.5 per cent refuse), 17 lbs. 3 oz., 33 cts. (96).....	.4	2	1	27	128
Vegetables: Cabbage (36.6 per cent refuse), 15 oz., 3 cts. (77); mustard salad, 1 lb. 3 oz., 1 ct. (86); green onions (50 per cent refuse), 5 oz., 2 cts. (89); canned tomatoes, 2 lbs. 3 oz., 11 cts. (98).....	.2	1	.....	2	12
Fruits: Canned peaches, 6 lbs. 10 oz., 33 cts. (108).....	.4	.....	.....	4	17
Total vegetable food .....	4.0	53	14	420	2,070
Total food purchased .....	13.3	122	172	453	3,955
Waste: Vegetable .....	.....	5	3	43	225
Total .....	.....	5	3	42	225
Total food eaten .....	13.3	117	169	410	3,730



## DIETARY STUDIES AMONG THE NEGROES IN 1898.

By ISABEL BEVIER.

---

### INTRODUCTION.

In the investigation of the food consumption of the negro in Alabama it was deemed best to continue the studies a second year in order to confirm the results of the first year. In like manner further investigation of the food consumption of the negro in Virginia seemed desirable, and the studies reported below were instituted in the spring of 1898. In order to obtain more definite information concerning the effect of education and other improving factors upon the character and amount of the food consumed by the negro, studies were made in families in widely different circumstances. Some of the families were in comfortable circumstances, others had very limited incomes. Some had been brought to a great degree under the influence of the Hampton Institute, others had not had the benefit of such training.

These studies were made in Elizabeth City County, Va., which is one of the eight original counties of the State. It contains about 30,000 acres of land, one-tenth of which is owned by the colored people, who constitute two-thirds of the total population, which numbers some 16,000. Hampton Roads forms the southern boundary of the county, while the Chesapeake Bay washes the eastern coast, and the James River is but a mile beyond its western limit. Fortress Monroe and the Soldiers' Home are situated within its borders. The former, with its two large hotels, gives employment to many of the colored people of the vicinity.

### OCCUPATION.

Agriculture is perhaps the most important occupation of the negroes of Elizabeth City County, although other occupations are followed. Many own from 1 to 3 acres of land and two or three negroes own 40 or more acres, while in one case, which, so far as could be learned was very exceptional, 100 acres are in the possession of one colored man. Owing to the mildness of the climate, the land, properly managed, can be made to yield two crops each season. Truck farming is a very prevalent occupation of the farming region. Early vegetables are raised in large quantities for the Northern market, and potatoes, peas, and sweet corn, as well as small fruits and berries, are shipped to Washington and other cities.

The various fishing industries furnish employment to many during three-fourths of the year, while Newport News, with its shipyards and varied industries, requires many laborers.

The town of Hampton attracts to it many of the negro boys and young men from the country who prefer a trade to work on the farm. Negroes are found as painters, carpenters, shoemakers, blacksmiths, wheelwrights, masons, and plasterers, and are represented in other trades. The negro professional men include physicians, lawyers, clergymen, and teachers, and one of the largest building and loan associations of the State is managed by colored people. Life insurance and real estate agencies are also conducted by the negroes of Hampton.

#### HOMES AND SURROUNDINGS OF THE FAMILIES STUDIED.

The character of the houses occupied by the negroes varies greatly according to their financial condition. Many of the houses in Hampton are substantial and commodious homes, built according to modern ideas.

Seven dietary studies were conducted. Three of these were made in the immediate vicinity of Hampton, the chief city of the county. Two of these families showed in a marked degree the beneficent influence of the neighboring Hampton Normal and Agricultural Institute, where they had received education and industrial training. They lived in substantial and commodious homes built by the "school carpenters." The housekeeping was carefully attended to and considerable attention given to the selection of the food. In the third family there was much untidiness and ignorance, and a continual struggle to provide the corn meal which formed a large part of the daily diet, yet the first dime earned on Saturday was put aside to pay for the next week's schooling.

Three dietary studies were made at Butlers Farm, the only distinctive negro settlement of the county, and two at Phœbus. Butlers Farm owes its name to the fact that General Butler gave the land to the negroes at the close of the war. It is a primitive settlement of about 20 families. The land is owned by the negroes in lots varying from 1 to 3 acres in size. The houses are frame structures, without lath or plaster, and contain from two to four rooms. The interiors are quite generally covered with newspapers or fashion plates. The furniture ordinarily consists of one or two chairs, a bench, a table and cupboard, and sometimes a stove. About half the families own a cow, most of them a few chickens and a pig. In a little garden patch they raise a few vegetables, the most common of which are corn, sweet potatoes, and cabbage.

The water supply of the people in the farming districts, like that of the people near Franklin, is obtained from shallow surface wells about 6 feet in depth, usually without walls other than the clay of the soil, although sometimes walled in by two barrels from which the ends have been removed. The well was generally inclosed by a board fence to keep out the children and the pigs.

Many of the homes have near the house a box-like structure set some 2 feet from the ground on piles, which is termed the "dairy." Milk, if they have it, and all other food materials are kept in this dairy.

The cooking and housekeeping are usually of the most primitive order. Except in such homes as show the influence of the Hampton Institute, the houses are untidy.

Partly because of the difficulty of keeping food and partly because of the lack of funds, food was not purchased in large quantities. Sufficient food material was ordinarily purchased the latter part of the week to last for the coming week. Considerable quantities of fish were used, but the chief animal food was "white meat," i. e., salted side bacon. Fresh meat was used in only one of the homes. The larger portion of the side bacon used in this region is obtained from Chicago. Three of the families visited used ice. This is almost a necessity if any variety of food is used.

During the winter each family kills the pigs which they have raised during the summer. Very little milk or butter is used, even by families owning a cow. The children are allowed only sour milk or buttermilk to drink, as the milk is all used for making butter to be exchanged for groceries. Even in the most well-to-do negro families a pound and a quarter of butter would serve for a family of six for a week.

Housekeeping as practiced in these homes does not require much time, and the women work on the farm with the men. Many of the women take in at least a little washing, and so earn small amounts of money each week.

#### BREAD.

In only one of the seven different families visited was wheat bread regularly baked. Two of the women explained that they could not bake bread on account of the lack of an oven. Two others said they did not like bread, "it was so tasteless." Instead, they used "hoe-cake," made of corn meal and water, or biscuit made from wheat flour. In two of the dietaries reported beyond, baker's bread was purchased at a cost of a little over 6 cents a pound. In order to show the relative economy of baking the bread in the household as compared with purchasing bread in this way, one of the more intelligent women was asked if she would not like to make a bread experiment. It was explained that she was to weigh all the ingredients which she put into the bread, and weigh the bread after baking, and then calculate how much the bread, as finally baked, cost her a pound. She was interested to make the test. Nine pounds and two ounces of bread was baked, at a total cost of 32 cents, exclusive of labor and fuel. This same amount of bread purchased of the baker would have cost 60 cents. Just how much should be allowed for the cost of the fuel it is difficult to say, but it was very evident to the woman that there was a very decided saving by baking her own bread.

### COMPOSITION OF FOOD MATERIALS.

No analyses of the food materials used were made. The kinds of food materials commonly used by the negroes are few in number, and they are shown to be of comparatively uniform composition by a very large number of analyses of similar food products made in connection with nutrition investigations in the United States. In calculating the results of the dietary studies the composition was assumed from what were considered reliable data,<sup>1</sup> as in the studies reported by Dr. Frissell in the preceding pages. Table 21, on pages 43-45 of the Appendix, shows the figures for the percentage composition of the various food materials found in use among the families studied.

### WASTE.

No attempt was made to determine the amount of waste in the different families. The values in the following tables show the amount of nutrients in the food purchased. However, it is not probable that there was any large amount of waste.

### DETAILS OF THE DIETARY STUDIES.

In tables 13 to 19, beyond, are given the details of the food consumed by the seven different families whose dietaries were studied. The explanations which were given on page 9, in connection with the tables showing the results of dietary studies made the year previous among the negroes near Franklin, Va., apply to these tables also.

#### DIETARY STUDIES OF NEGRO FAMILIES IN OR NEAR HAMPTON, VA.

The results of the seven dietary studies made during 1898 in negro families residing in or near Hampton, Va., are summarized below.

##### DIETARY STUDY NO. 234.

This study began May 31, 1898, and continued 8 days. The family consisted of the father, 32 years of age; the mother, the same age; two daughters, of 7 and 3 years, respectively, and a son, 6 years of age. The weights of the family were 145, 135, 52, 30, and 50 pounds, respectively. In addition to the regular family, one visitor, a woman 35 years of age, was present during the entire time. The father was a book-keeper, and had an income of \$1,200 per year. They owned their house, which contained seven well-furnished rooms (Pl. II, figs. 1 and 2). Both the father and mother were graduates of Hampton Institute. The latter did much among her people to improve their domestic condition. In addition to his regular business, the father was connected with a building and loan association and some other enterprises. Food

---

<sup>1</sup> See especially U. S. Dept. of Agr., Office of Experiment Stations Buls. 28, revised, and 38.



FIG. 1.—HOUSE OF NEGRO BOOKKEEPER (DIETARY STUDY No. 234).



FIG. 2.—INTERIOR OF HOUSE OF NEGRO BOOKKEEPER (DIETARY STUDY No. 234).



was bought in considerable variety, and, in fact, the dietary resembles that of an ordinary well-to-do white family. In addition to the food materials enumerated below, 15 cents' worth of tea, 8 cents' worth of coffee, 2 cents' worth of salt, 2 cents' worth of pepper, 2 cents' worth of yeast, 7 cents' worth of baking powder, and 36 cents' worth of ice were used during the study. The family also had on hand a variety of condiments, such as are in ordinary use in cooking.

The number of meals taken was as follows:

	Meals.
Man .....	23
Woman (22 meals $\times$ 0.8 meal of man), equivalent to .....	18
Girl, 7 years (24 meals $\times$ 0.5 meal of man), equivalent to.....	12
Boy, 6 years (24 meals $\times$ 0.5 meal of man), equivalent to.....	12
Girl, 3 years (24 meals $\times$ 0.4 meal of man), equivalent to.....	10
Women visitors (30 meals $\times$ 0.8 meal of man), equivalent to.....	24
Total number of meals taken equivalent to.....	99

Equivalent to 1 man 33 days.

The details of the dietary study are given in the following table:

TABLE 13.—*Dietary study of a negro family in Hampton, Va. (No. 234).*

[For explanation of numbers in parentheses, see Appendix, p. 43.]

Kinds and total amounts of food consumed during the study (8 days).	Cost and composition of food per man per day.				
	Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.
<b>ANIMAL FOOD.</b>					
Beef: Second cut, round, $2\frac{1}{2}$ lbs., 30 cts. (5); smoked, $1\frac{1}{2}$ lbs., 30 cts. (8); round, 1 lb., 15 cts. (10); chuck, $1\frac{1}{2}$ lbs., 20 cts. (9). Veal: Hind shank, $3\frac{1}{2}$ lbs., 56 cts. (14).	Cents. 4.6	Grams. 21	Grams. 8	Grams. -----	Calories. 161
Pork: Salt dried side, $1\frac{1}{2}$ lbs., 16 cts. (25); ham, 1 lb. 2 oz., 13 cts. (18); lard, 4 lbs. 2 oz., 40 cts. (21).	2.1	4	78	-----	742
Fish: Blue, 2 lbs. 2 oz., 8 cts. (32); croakers, $5\frac{1}{2}$ lbs., 10 cts. (33); trout, $4\frac{1}{2}$ lbs., 10 cts. (46).	.8	28	17	-----	273
Eggs, 3 lbs., 24 cts. (50)	.7	5	5	-----	67
Dairy products: Milk, $2\frac{1}{2}$ lbs., 72 cts. (55); butter, $1\frac{1}{2}$ lbs., 30 cts. (52); cheese, 2 oz., 2 cts. (53) .....	3.2	26	14	17	307
Total animal food .....	11.4	84	122	17	1,550
<b>VEGETABLE FOOD.</b>					
Cereals: Corn meal, 5 lbs. 6 oz., 9 cts. (57); bread, $5\frac{1}{2}$ lbs., 26 cts. (63); crackers, 2 lbs. 2 oz., 28 cts. (64); flour, 10 lbs. 15 oz., 45 cts. (61); rice, $\frac{3}{4}$ lb., 6 cts. (60).	3.5	40	10	235	1,220
Sugars, starches, and oils: Salad oil, 1 oz., 3 cts. (78); loaf sugar, $\frac{1}{2}$ lb., 2 cts. (69); granulated sugar, $\frac{3}{4}$ lbs. 2 oz., 48 cts. (69); vanilla syrup, 3 lbs. 15 oz., 18 cts. (70).	2.1	1	1	161	673
Potatoes: Irish, 12 lbs. 3 oz., 32 cts. (94).	1.0	4	-----	36	164
Legumes: Beans, 2 oz., 2 cts. (74) .....	-----	1	-----	1	8
Vegetables: Beets, $1\frac{1}{2}$ lbs., 5 cts. (76); cabbage, 3 lbs. 11 oz., 5 cts. (77); onions, 15 oz., 5 cts. (87); canned tomatoes 4 lbs. 6 oz., 16 cts. (98) .....	1.0	2	-----	9	45
Fruits: Evaporated apples, $\frac{1}{2}$ lb., 5 cts. (101); canned blackberries, 4 lbs. 6 oz., 14 cts. (102); lemons, $\frac{3}{4}$ lb., 10 cts. (106); oranges, $2\frac{1}{2}$ lbs., 15 cts. (107); strawberries, 5 lbs. 2 oz., 22 cts. (112) .....	2.0	1	2	47	215
Total vegetable food .....	9.6	49	13	489	2,325
Total food .....	21.0	133	135	506	3,875

This study, which began June 1, 1898, and continued 8 days, was made with a family consisting of the father, 30 years old; the mother, 26 years old; two girls, one 3 and the other  $1\frac{1}{2}$  years of age; and three boarders, a man 28 years old and two women 24 and 18 years of age. The weights of the family, excepting the child 3 years old, whose weight was not recorded, were 156, 158, 23, 154, 124, and 148 pounds, respectively. The father was a plumber. He also sang in a quartette which made extended trips, giving concerts. His regular trade brought in \$9 per week, and while on trips with the quartette he was paid \$1.50 per day and expenses. The man who boarded with the family was a carpenter and earned about \$12 per week. He paid \$12 per month for room and board. The woman who boarded with the family was a tailoress, earning \$3 per week, and paid \$7 per month for room and board. The woman 18 years of age was a sister of the mother, and paid no board. She worked in a printing office, and earned \$8 per month. The children did not appear to be very strong, and did not seem well nourished. Milk was used only on Sunday morning, and then the children were given none. The father, boarders, and the young woman took their dinner from home, and the rest of the family ate a cold lunch in the middle of the day, so that the chief meal was served at night. No attempt was made to collect the waste, as there was practically none. The fragments left from other meals were eaten for lunch. Thus the food purchased in this dietary is practically equivalent to the food eaten. In addition to the food materials mentioned below, 15 cents' worth of coffee, 8 cents' worth of tea, 5 cents' worth of ginger, 6 cents' worth of baking powder, and 1 cent's worth of salt were used.

The number of meals taken was as follows:

	Meals.
Two men .....	31
Three women ( $72 \text{ meals} \times 0.8 \text{ meal of man}$ ), equivalent to .....	57
Child, 3 years ( $24 \text{ meals} \times 0.4 \text{ meal of man}$ ), equivalent to .....	10
Child, $1\frac{1}{2}$ years ( $24 \text{ meals} \times 0.3 \text{ meal of man}$ ), equivalent to .....	7
Girl visitor, 15 years .....	1
Total number of meals taken equivalent to .....	106
Equivalent to 1 man 35 days.	

The following table shows the details of the dietary study:

TABLE 14.—*Dietary study of a negro family near Hampton, Va. (No. 235).*

[For explanation of numbers in parentheses, see Appendix, p. 43.]

Kinds and total amounts of food consumed during the study (8 days).	Cost and composition of food per man per day.				
	Cost.	Protein.	Fat.	Carbohy-	Fuel
	Cents.	Grams.	Grams.	Grams.	value.
<b>ANIMAL FOOD.</b>					
Beef: Chipped, 1 lb., 25 cts. (8); liver, 3½ lbs., 28 cts. (4); bologna, 1 lb., 10 cts. (12); drippings and cottonole, 3¼ lbs., 10 cts. (13).....	2.1	15	47	.....	498
Pork: Breakfast bacon, 1½ lbs., 18 cts. (15); side, 4 lbs., 40 cts. (25); sausage, 2 lbs., 20 cts. (28).....	2.2	10	64	.....	636
Poultry: Chicken, 2 lbs., 10 oz., 40 cts. (30).....	1.2	6	5	.....	63
Fish: Croakers, 5½ lbs., 10 cts. (34); flounder, 2 lbs., 3 oz., 5 cts. (36).....	.4	14	15	.....	196
Eggs, 3½ lbs., 32 cts. (51).....	.9	5	4	.....	57
Dairy products: Milk, 1 lb., 4 cts. (55); condensed milk, 14 oz., 10 cts. (56); butter, 1 lb. 5 oz., 39 cts. (52).....	1.5	2	17	7	205
Total animal food .....	8.3	52	152	7	1,655
<b>VEGETABLE FOOD.</b>					
Cereals: Bread, 10 lbs. 2 oz., 50 cts. (63); corn meal, 6 lbs., 8 cts. (57); flour, 6 lbs. 14 oz., 20 cts. (61); macaroni, 1 oz., 1 ct. (66); rice, ¾ lb., 6 cts. (60).....	2.4	35	6	201	1,023
Sugars and starches: Cornstarch, 2 oz., 1 ct. (72); sugar, 5 lbs. 14 oz., 36 cts. (69); chocolate, 7 oz., 24 cts. (71).....	1.7	1	3	78	352
Potatoes: Irish, 4 lbs. 6 oz., 13 cts. (95).....	.4	1	.....	8	37
Legumes: Navy beans, 3 lbs. 10 oz., 20 cts. (74); garden peas, 5 lbs. 7 oz., 20 cts. (91).....	1.2	13	1	35	206
Vegetables: Garden cabbage, 4 lbs. 6 oz., 4 cts. (78); canned corn, 1 lb. 7 oz., 10 cts. (82); garden lettuce, 1 lb. 10 oz., 10 cts. (84); onions, ½ lb. (88); tomatoes, 4½ lbs., 16 cts. (98).....	1.1	2	1	10	58
Fruits: Dried apples, 9 oz., 3 cts. (101); strawberries, 2½ lbs., 10 cts. (112).....	.4	.....	.....	7	29
Total vegetable food .....	7.2	52	11	339	1,705
Total food.....	15.5	104	163	246	3,360

#### DIETARY STUDY No. 236.

This study was of 7 days' duration, beginning on June 3, 1898. The members of the family were as follows: The father, 40 years of age, weighing 140 pounds; the mother, 35 years of age, weighing 150 pounds; four sons, aged, respectively, 16, 14, 10, and 4 years, and three daughters, aged, respectively, 9, 6, and 1 year of age. The weights of the three oldest sons were 103, 75, and 60 pounds, and of the two oldest daughters 41 and 37 pounds, respectively. The weights of the youngest son and youngest daughter were not obtained. The father worked in a large hotel, and earned \$15 per month and his board. The mother was ignorant and in poor health. The tract of land on which this family lived belonged to the mother. The father had built the house and made several additions to it until it numbered five rooms. The family owned one cow and some chickens. The boys worked at the fisheries and took their pay in fish, a part of which they afterwards sold. They earned about 15 cents per day, besides sufficient fish for the family. The family used little or no milk, but exchanged it for meat,

eggs, pepper, etc. The bread eaten was chiefly "hoecakes" made of flour and baked on a griddle. The members of the family were in good health, with the exception of the mother and the oldest son. This family was regarded as a type of the very poor negroes in this region. In addition to the food materials mentioned below, 4 cents' worth of tea, 12 cents' worth of coffee, 1 cent's worth of salt, and 3 cents' worth of baking powder were used during the time of the study.

The number of meals taken was as follows:

	Meals.
Man .....	3
Woman (21 meals $\times$ 0.8 meal of man), equivalent to .....	17
Two boys, 16 and 14 years (42 meals $\times$ 0.8 meal of man), equivalent to .....	34
Boy, 10 years (21 meals $\times$ 0.6 meal of man), equivalent to .....	13
Two girls, 9 and 6 years (18 meals $\times$ 0.5 meal of man), equivalent to .....	9
Boy, 4 years (21 meals $\times$ 0.4 meal of man), equivalent to .....	8
Child, 1 year (21 meals $\times$ 0.3 meal of man), equivalent to .....	6
Woman visitor .....	2
Total number of meals taken equivalent to .....	92
Equivalent to 1 man 31 days.	

The details of the study are shown in the following table:

TABLE 15.—*Dietary study of a negro family near Hampton, Va. (No. 236).*

[For explanation of numbers in parentheses, see Appendix, p. 43.]

Kinds and total amounts of food consumed during the study (7 days).	Cost and composition of food per man per day.				
	Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.
<b>ANIMAL FOOD.</b>					
Beef: Round, 2 lbs., 28 cts. (11).....	Cents. 0.9	Grams. 7	Grams. 1	Grams.	Calories. 38
Pork: Salt side, 1½ lbs., 10 cts. (25); lard, 1½ lbs., 13 cts. (21) .....	.7	1	40	.....	377
Fish: Croakers, 8 lbs., 16 cts. (34); sturgeon heads, 18 lbs. 14 oz., 48 cts. (45); trout, 3 lbs., 6 cts. (47); turtle, 10 lbs., 50 cts. (48) .....	3.9	66	24	.....	494
Eggs, 2 lbs. 6 oz., 21 cts. (50) .....	.7	5	4	.....	58
Dairy products: Milk, 37 lbs. 2 oz., \$1.11 (55); butter, ¼ lb., 7 cts. (52).....	3.8	18	24	27	408
Total animal food .....	10.0	97	93	27	1,375
<b>VEGETABLE FOOD.</b>					
Cereals: Corn bread, 4½ lbs., 4 cts. (62); corn meal, 19 lbs., 25 cts. (57); flour, 7 lbs., 24 cts. (61).....	1.7	43	17	310	1,606
Sugars and starches: Sugar, 2 lbs. 5 oz., 14 cts. (69) .....	.5	.....	34	.....	139
Total vegetable food .....	2.2	43	17	344	1,745
Total food .....	12.2	140	110	371	3,120

#### DIETARY STUDY No. 237.

This study, like the others, was of 7 days' duration, beginning on June 13, 1898. The family studied consisted of the mother, 42 years of age; five sons, aged, respectively, 19, 16, 10, 7, and 4 years; and one daughter, 13 years of age. The weights of the members of the family could not be obtained. The family lived in a house of two rooms, without lath or plaster (Pl. III, fig. 1). The rent, \$1.25 per month, was paid



FIG. 1.—INTERIOR OF HOUSE OF NEGRO FAMILY (DIETARY STUDY NO. 237).



FIG. 2.—INTERIOR OF HOUSE OF NEGRO FAMILY (DIETARY STUDY NO. 239).



by the oldest son, who was a farmer, and received \$10 per month and "rations." These consisted of 12 pounds of side bacon,  $12\frac{1}{2}$  pounds of flour, 1 bushel of corn meal, 4 pounds of sugar, and  $\frac{1}{4}$  pound of tea. The son brought these "rations" home each month, and together with some additional food they formed the food supply of the whole family. The son carried his noon lunch from home and was allowed, by the farmer for whom he worked, all the milk he wished to drink. The amount consumed could not be determined and is not included in the study. It would tend to slightly increase the amount of nutrients per man per day. The mother earned \$1.25 per week by washing. The second son received \$8 a month and board when he worked. The live stock consisted of one pig and numerous chickens. The family seemed in good health.

In addition to the food materials enumerated in the following table, 8 cents' worth of tea and 2 cents' worth of salt were used during the week covered by the dietary study.

The number of meals taken was as follows:

	Meals.
Woman (21 meals $\times$ 0.8 meal of man), equivalent to .....	17
Man .....	21
Boy, 16 years (9 meals $\times$ 0.8 meal of man), equivalent to.....	8
Two children, 13 and 10 years (42 meals $\times$ 0.6 meal of man), equivalent to.....	25
Boy, 7 years (21 meals $\times$ 0.5 meal of man), equivalent to.....	11
'boy, 4 years (21 meals $\times$ 0.4 meal of man), equivalent to.....	8
Total number of meals taken equivalent to.....	90
Equivalent to 1 man 30 days.	

The details of the study are shown in the table which follows.

TABLE 16.—*Dietary study of a negro family in Hampton, Va. (No. 237).*

[For explanation of numbers in parentheses, see Appendix, p. 43.]

Kinds and total amounts of food consumed during the study (7 days).	Cost and composition of food per man per day.				
	Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.
<b>ANIMAL FOOD.</b>					
Pork: Salt side, $8\frac{1}{2}$ lbs., 71 cts. (25); lard, $\frac{1}{2}$ lb., 3 cts. (21).....	2.5	10	37	.....	944
Fish: Dressed croakers, 3 lbs., 10 cts. (34).....	.3	5	8	.....	95
Eggs, $3\frac{1}{2}$ lbs., 26 cts. (50).....	.8	5	5	.....	67
Dairy products: Buttermilk, 13 lbs., 40 cts. (54); sour milk, $27\frac{1}{2}$ lbs., 40 cts. (55); butter, $\frac{1}{4}$ lb., 6 cts. (52).....	2.9	22	21	30	400
Total animal food .....	6.5	42	131	30	1,515
<b>VEGETABLE FOOD.</b>					
Cereals: Corn meal, 24 lbs., 36 cts. (57); flour, 12 lbs. 2 oz., 43 cts. (61); hominy, $2\frac{1}{2}$ lbs., 5 cts. (58); oat flakes, $\frac{1}{2}$ lb., 3 cts. (59).....	2.9	61	21	494	2,225
Sugars and starches: Molasses, $3\frac{1}{2}$ lbs., 12 cts. (67); sugar, 4 lbs. 10 oz., 27 cts. (69).....	1.3	1	.....	106	439
Vegetables: Cabbage, 4 lbs. 3 oz., 11 cts. (77).....	.4	1	.....	4	21
Total vegetable food .....	4.6	63	21	544	2,685
Total food .....	11.1	105	152	574	4,200

This study was begun June 13, 1898, and continued for 7 days. The members of the family were as follows: The father, 36 years old; the mother, 35 years old; and two daughters of 12 and 10 years of age. The weights of the father and mother were 140 and 125 pounds, respectively. The weights of the children were not recorded. The family paid no rent for their house, which was owned by a sister. The father earned \$1.25 per week when he worked the whole time, but of the 6 working days covered by the study he was idle 3. He rode to his work, which was 7 miles distant, on a bicycle. The mother earned \$1 per week by washing. She also picked up potatoes during certain seasons of the year, receiving 10 cents a barrel. She seemed anxious to work. The wants of the family were small, but as the father was very irregular at his work they were very poor. A pig and a few chickens were owned by the family. The provisions were bought by the week, usually on Saturday, and paid for in cash. The children ate the same kinds of food as the rest of the family. In addition to the food materials enumerated below, 10 cents' worth of tea, 1 cent's worth of salt, and 4 cents' worth of baking powder were used during the week.

The number of meals taken was as follows:

	Meals.
Man .....	21
Woman (16 meals $\times$ 0.8 meal of man), equivalent to .....	13
Two girls, 12 and 10 years (42 meals $\times$ 0.6 meal of man), equivalent to .....	25
Total number of meals taken equivalent to .....	59

Equivalent to 1 man 20 days.

Following are the details of the dietary study:

TABLE 17.—*Dietary study of a negro family in Hampton, Va. (No. 238).*

[For explanation of numbers in parentheses, see Appendix, p. 43.]

Kinds and total amounts of food consumed during the study (7 days).	Cost and composition of food per man per day.					
	Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.	
<b>ANIMAL FOOD.</b>						
Pork Salt dried, 4 lbs., 14 oz., 39 cts. (23) smoked side (with rib), 3½ lbs., 35 cts. (21); lard 2½ lbs., 14 cts. (21) .....	—	—	—	—	—	—
Total animal food .....	4.4	15	175	—	—	1,690
<b>VEGETABLE FOOD.</b>						
Cereals Bread, 6 oz., 1 ct. (63); corn meal, 15 lbs., 23 cts. (57); flour 8½ lbs., 26 cts. (61) .....	2.5	58	19	398	—	2,045
Sugars and starches Cornstarch, ½ lb., 2 cts. (72); molasses, 2½ lbs., 17 cts. (67); sugar, 2½ lbs., 12 cts. (69) .....	1.6	1	—	86	—	355
Total vegetable food .....	4.1	59	19	484	—	2,400
Total food .....	8.5	74	194	484	—	4,090

This study, which was of 7 days' duration, began with dinner June 13, 1898. The family consisted of the mother, 58 years of age; two daughters of 30 and 17 years, respectively; a son 21 years of age; three granddaughters, 12, 8, and 6 years of age, respectively; and a grandson,

an infant of 7 months. The daughter, 30 years of age, weighed 120 pounds, and the son, 21 years of age, 140 pounds. The weights of the other members of the family could not be obtained. The mother owned 3 acres of land and the house of 4 rooms in which they live (Pl. III, fig. 2). This was built with the aid of a loan of \$100 from a building and loan association. The mother earned 50 cents a day by doing house-work, and paid 40 cents a week to the loan association. Her oldest daughter was shiftless and did not care to work. The son farmed the 3 acres of land which they owned, and in addition a tract of 5 acres, which was rented. The live stock consisted of a cow, a pig, and some chickens. Most of the eggs obtained were sold. Part of the milk was made into butter, a portion of which was sold. In addition to the food materials enumerated below, 10 cents' worth of tea, 2 cents' worth of salt, and 1 cent's worth of baking powder were used in the study.

The number of meals taken was as follows:

	Meals.
Two men .....	21
Two women (34 meals $\times$ 0.8 meal of man), equivalent to .....	27
Girl, 17 years (20 meals $\times$ 0.7 meal of man), equivalent to .....	14
Girl, 12 years (21 meals $\times$ 0.6 meal of man), equivalent to .....	13
Two girls, 8 and 6 years (42 meals $\times$ 0.5 meal of man), equivalent to .....	21
Infant (21 meals $\times$ 0.3 meal of man), equivalent to .....	6
Man visitor .....	1
Total number of meals taken equivalent to .....	103
Equivalent to 1 man 34 days.	

The details of the study are given in the following table:

TABLE 18.—*Dietary study of a negro family in Hampton, Va. (No. 239).*

[For explanation of numbers in parentheses, see Appendix, p. 43.]

Kinds and total amounts of food consumed during the study (7 days).	Cost and composition of food per man per day.				
	Cost.	Protein.	Fat.	Carbohydrates.	Fuel-value.
<b>ANIMAL FOOD.</b>					
Pork: Salt sides, 5½ lbs., 33 cts. (25); lard, 2 lbs., 12 cts. (21) .....	1.3	6	79	.....	759
Fish: Salt herring, 4 lbs., 6 oz., 12 cts. (38) .....	.4	12	5	.....	96
Eggs, 5 lbs., 1 oz., 38 cts. (50) .....	1.1	9	8	.....	112
Dairy products: Milk, 20 lbs., 6 oz., 71 cts. (55); butter, 7 oz., 8 cts. (32) .....	2.3	9	16	14	243
Total animal food .....	5.1	36	108	14	1,210
<b>VEGETABLE FOOD.</b>					
Cereals: Corn meal, 16½ lbs., 24 cts. (57); flour 11½ lbs., 40 cts. (61); rice, 5½ lbs., 42 cts. (60) .....	3.1	48	15	349	1,766
Sugars and starches: Sugar, 3 lbs., 2 oz., 18 cts. (69) .....	.5	.....	.....	42	172
Vegetables: Cabbage, 3 lbs., 5 cts. (78) .....	.2	1	.....	2	12
Total vegetable food .....	3.8	49	15	393	1,950
Total food .....	8.9	85	123	467	3,160

#### DIETARY STUDY No. 240.

This study began with dinner on June 21, 1898, and continued 3 days. The family consisted of the father, 42 years old; the mother, 44 years old; a son, 23 years old; a ward, 12 years of age; and two visitors, i. e.,

a niece of the father, 23 years of age, and her daughter, 2 years of age. The weights of the family were 165, 176, 186, 75, 140, and 35 pounds, respectively. This family is regarded as a fair representative of the better class of negro farmers. They owned 3½ acres of land and rented 4 acres in addition, paying \$2 per acre. They also owned their house of 6 rooms. The father was a carpenter, but also worked on the farm. The son was a teamster and earned \$3 a day. The mother worked out a part of one day each week and received 50 cents. The live stock consisted of 2 horses, 1 pig, and 80 chickens. With the exception of the father the health of the family was good. The duration of this study was too short to give the most satisfactory idea of the food consumption of this family. It had been intended to make the study of a week's duration, but circumstances prevented. It does, however, give some idea of the food habits of this family. In addition to the materials enumerated in the following table, 5 cents' worth of tea, 5 cents' worth of coffee, 1 cent's worth of mustard, and 3 cents' worth of pepper were used during the 3 days the study continued.

The number of meals taken was as follows:

	Meals.
Two men . . . . .	18
Two women (17 meals $\times$ 0.8 meal of man), equivalent to . . . . .	13
Girl, 12 years (9 meals $\times$ 0.6 meal of man), equivalent to . . . . .	5
Child, 2 years (9 meals $\times$ 0.1 meal of man), equivalent to . . . . .	4
Total number of meals taken equivalent to . . . . .	40
Equivalent to 1 man 13 days.	

The following table gives the details of the dietary study:

TABLE 19.—*Dietary study of a negro family near Hampton, Va. (No. 240).*

[For explanation of numbers in parentheses, see Appendix, p. 43.]

Kinds and total amounts of food consumed during the study (3 days).	Cost and composition of food per man per day.				
	Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.
<b>ANIMAL FOOD.</b>					
Beef: Corned, 1 lb., 15 cts. (1)	1.2	10	5		88
Pork: Salt dried, 14 lbs., 11 cts. (24); ham, 2 lbs., 10 oz., 26 cts. (19); home bacon, 1 lb., 10 cts. (24); lard, 1 lb., 8 cts. (21)	4.2	20	115		1,152
Poultry: Dressed chicken 1 lb., 6 oz., 20 cts. (31)	1.5	7	6		85
Fish: Sun, 2½ lbs., 12 cts. (47); trout, 4 lbs., 18 cts. (47)	2.3	23	2		113
Eggs, 2 lbs., 2 oz., 17 cts. (50)	1.3	10	8		115
Dairy products: Milk, 2 lbs., 14 oz., 9 cts. (55); butter, 10 oz., 14 cts. (52)	1.8	3	23	5	247
Total animal food	12.3	73	159	5	1,800
<b>VEGETABLE FOOD.</b>					
Cereals: Oat flakes, 10 oz., 4 cts. (59); corn meal, 10½ lbs., 15 cts. (57); flour, 4½ lbs., 17 cts. (61)	2.8	54	21	385	1,994
Sugars and starches: Sugar, 2 lbs., 6 oz., 14 cts. (69)	1.1			83	340
Vegetables: Cabbage, 4½ lbs., 7 cts. (78)	.5	2		8	41
Fruits: Blackberries, 1½ lbs., 5 cts. (102); canned peaches, 1 lb., 5 oz., 7 cts. (108); dried peaches, 1 lb., 10 cts. (109)	1.7	3	2	61	280
Total vegetable food	6.1	59	23	537	2,655
Total food	18.4	132	182	542	4,456

## DISCUSSION OF RESULTS.

With the exception of the investigation made with the negroes near Tuskegee, Ala., there has been little detailed study of the food consumption of the colored population of the United States. In food investigations carried on by Miss Shapleigh<sup>1</sup> among the very poor in Philadelphia, the food habits of a few negro families were studied. In investigations carried on near Tuskegee, some of the families studied had been under the influence of Tuskegee Institute, and their food habits and methods of living had been considerably altered, resembling more nearly those of the ordinary American family. Other families whose diets were studied might be considered as fairly representative of negro families in regions remote from such influence. In such cases the food consisted largely of bacon, flour, corn meal, and molasses. The dietary studies in Virginia reported above were made under conditions quite similar to those existing in Alabama. Some of the families studied had been under the beneficent influence of Hampton Normal Institute, and, as in the case of families under similar conditions near Tuskegee, their living habits were found to differ largely from those of the families studied in regions more remote, or those who had not been under the influence of the Institute.

In order the better to compare the results of these investigations with the general results of dietary studies made in Alabama, and with averages of investigations among white families of different incomes and social conditions in the United States, reference may be made to the following table:

TABLE 20.—*Cost, nutrients, and fuel value of food per man per day in dietary studies in Virginia and elsewhere.*

Dietary No.		Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.
DIETARIES OF NEGROES IN VIRGINIA.						
211	Dietary of a negro family near Franklin, Va.	Cents.	Grams.	Grams.	Grams.	Calories.
212	.....do.....	7	95	131	400	3,245
212	.....do.....	6	76	141	372	3,145
213	.....do.....	10	122	167	493	4,075
214	.....do.....	8	150	189	575	4,770
215	.....do.....	4	59	89	218	1,880
216	.....do.....	6	55	160	314	3,000
217	.....do.....	20	16	22.9	617	5,350
218	.....do.....	5	70	103	343	2,650
219	.....do.....	16	140	210	516	4,695
220	.....do.....	11	117	225	608	5,065
221	.....do.....	6	114	153	339	3,280
222	.....do.....	13	117	16.9	410	3,730
234	Dietary of a negro family in Hampton, Va.	21	133	135	506	3,875
235	Dietary of a negro family near Hampton, Va.	15	104	163	346	3,360
236	.....do.....	12	140	110	371	3,120
237	Dietary of a negro family in Hampton, Va.	11	105	152	574	4,200
238	.....do.....	9	74	194	481	4,090
239	.....do.....	9	85	123	497	3,160
240	Dietary of a negro family near Hampton, Va.	18	132	182	542	4,455
Average of 19 negro families in Virginia.				119	441	3,745

<sup>1</sup> Partial Report of Dutton Fellow, College Settlements Association, 1892-93.

TABLE 20.—*Cost, nutrients, and fuel value of food per man per day in dietary studies in Virginia and elsewhere—Continued.*

Dietary No.		Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.
DIETARIES OF NEGROES IN ALABAMA.						
132	Dietary with minimum protein .....	4	26	83	225	1,800
104	Dietary with maximum protein .....	11	99	252	366	5,480
137	Dietary with minimum energy .....	5	31	27	304	1,625
103	Dietary with maximum energy .....	12	93	283	649	5,670
	Average of 20 negro families in Alabama .....	8	62	132	436	3,270
AVERAGES OF OTHER DIETARIES.						
	Average of 4 Mexican families in New Mexico .....	8	94	71	610	3,550
	Average of 14 mechanics' families .....	19	103	150	402	3,405
	Average of 10 farmers' families .....		97	130	467	3,515
	Average of 14 professional men's families .....	28	104	125	423	3,325
	Tentative standard for man at moderate work .....		125			3,500

The cost of the food consumed per man per day in the 19 studies here reported varied from 4 to 21 cents. The corresponding range in cost among the negro families studied in Alabama was from 3 to 20 cents, averaging 8 cents. The protein among the families in Virginia ranged from 55 to 169 grams, averaging 109 grams per man per day, while the protein in the Alabama dietaries ranged from 26 to 99 grams, averaging 62 grams per man per day. The energy in the daily food ranged from 1,880 to 5,350 calories among the families in Virginia, while the studies made in Alabama showed a range of fuel value from 1,625 to 5,670 calories.

It is noteworthy that the average amount of protein in the dietaries of negro families in Virginia was as large or larger than the average amount found in the daily diet of white persons in moderately comfortable circumstances, such as families of mechanics and families of professional men, and was very nearly as large as that called for in the tentative American standard, namely, 125 grams per man per day. The reason for the larger amount of protein in negro families in Virginia as compared with those in Alabama is doubtless due to the close proximity of salt water, which made fish an important article of diet. Among the families studied near Franklin, salt herring were used to a large extent. In the families studied near Hampton large amounts of various fresh fish were used. In fact, of the 19 families studied there were but two who did not consume at least one meal of fish during the time of the dietary. The relative importance of fish in the diet of these people may be illustrated by the fact that in one instance nearly 50 per cent of the total protein of the food was furnished by fish. As shown by the average results for the 19 families, over one-fifth of the total protein of the food came from this source.

In the investigations, both in Alabama and Virginia, the average fuel value of the food consumed per man per day is as large or larger than that found in the dietary studies among white families already mentioned. Thus, the average fuel value found in 19 studies in Vir-

ginia was 3,745 calories; that found in 20 studies in Alabama, 3,270; the average of 10 white families in New England and New York, 3,515; while the tentative standard for a man at moderate work calls for about 3,500 calories per day.

From the above considerations it would seem that judging solely by the amount of nutrients the negro families in Virginia were on the average more abundantly fed than those studied in Alabama. The fuel value of the food was, if anything, more than sufficient for their daily needs, although the majority of the people studied were at active exercise in the fields. The quantity of protein was as large as is found in the average diet of the ordinary white person. Of course, nothing can be definitely said regarding the digestibility of the diet. It seems quite certain that coarse food materials, like corn meal, are less digestible than the finer flours. Neither can anything be said concerning the effect of the preparation of the food and its attractiveness upon its digestibility.

One point of considerable interest in connection with these studies is the small cost per man per day. For 11 cents the families in Virginia obtained food materials furnishing more protein and more energy than was obtained for 28 cents by the families of professional men in comfortable circumstances, and for 19 cents by families of well-paid mechanics. However, the food would certainly seem less appetizing and would not suit families used to more elaborate living.

The average food consumption found in four native Mexican families, resident in New Mexico, resembles quite nearly as regards protein and energy the food consumed by the negroes in Virginia. The character of the food materials was, however, widely different. The negroes lived largely on bacon, fish, and corn meal, the Mexicans on flour and frijoles, or other legumes, with a very little meat.

It is interesting to note that in the negro families who had come more or less under the influence of Tuskegee and Hampton Normal institutes the diet was more or less modified. This is well illustrated by a comparison of dietaries No. 234 and No. 235, the details of which are given on pages 31 and 33, with the results obtained in some of the other studies. The diet of these families resembles quite closely that of the ordinary white family under similar conditions, both as regards variety of food materials and as regards the amounts of nutrients.

Attention must be called to the fact that in dietary studies Nos. 234 to 240, inclusive, no account was taken of the waste, so that the calculated nutrients per man per day include the waste as well as the food eaten. It is, however, improbable that there could have been any appreciable waste unless it be in the families of those persons whose diet was most varied.

The range in the quantity of nutrients per man per day in the different studies is much larger than is ordinarily found among families in very much the same conditions as were the families studied. A possible reason for this large variation was suggested by the observed

fact that when there was plenty of food on hand large quantities were consumed by the different families, after which, during a period of less plentiful food, much smaller amounts would be consumed, without apparent discomfort or ill results.

The families studied in Virginia were believed to be representative of the negro population of the region, and to illustrate the methods of living of negro families of different conditions as regards income and education. It must be remembered, however, that the studies are few in number and more are needed before sweeping general deductions can be drawn.

## APPENDIX.

As was explained on pages 8 and 30, the foods consumed in the dietary studies reported in this bulletin were not analyzed. The majority of them were staple articles of diet whose composition has been found to vary but little. It was believed that the composition of such foods could be accurately estimated from standard tables showing their average composition. The amount of other foods eaten was small, and it was thought that the composition of such articles could be estimated with sufficient accuracy from available data. The following table shows the values which were used in calculating the composition of the different food materials. These figures are taken from Bulletin 28, revised, of this Office, or from an earlier, unpublished revision of Bulletin 28. The numbers in parentheses following the weights and cost of the different food materials in the tables recording the statistics of the individual diets (Nos. 1 to 20) refer to the corresponding numbers in the column headed "Reference number" in the table below, and indicate the average values used in calculating the amount of protein, fat, and carbohydrates in each material used.

TABLE 21.—*Percentage composition of food materials used in calculating the amount of nutrients consumed in the different dietary studies.*

Ref. No.	Kind of food material.	Refuse.	Water.	Protein.	Fat.	Carbo- hydrates.	Ash.
ANIMAL FOOD.							
1	Beef:		Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1	Corned		52.5	28.2	15.8	—	4.2
2	Flank	10.2	54.0	17.0	19.0	—	.7
3	Kidney fat		14.9	4.7	80.2	—	.3
4	Liver		71.3	20.5	4.7	1.3	1.6
5	Potroast (second cut round)	19.5	56.2	16.4	6.9	—	.9
6	Scraps		59.6	17.9	20.6	—	2.0
7	Shoulder bone		67.9	19.6	11.6	—	.9
8	Smoked	4.7	53.7	26.4	6.9	—	8.9
9	Steak, chuck	15.2	57.9	16.6	10.0	—	.8
10	Steak, round	7.2	60.7	19.0	12.8	—	1.0
11	Do		73.5	23.2	2.5	—	1.2
12	Sausage, bologna		60.0	18.7	17.6	—	3.7
13	Drippings and cottoleone				100.0	—	
14	Veal, hind shank	62.7	27.8	7.7	1.7	—	.4
Pork:							
15	Bacon		17.8	10.6	68.0	—	4.4
16	Chittlings <sup>a</sup>		17.7	8.4	72.2	—	3.4
17	Crackling <sup>a</sup>		43.3	19.5	33.8	—	3.3
18	Ham, smoked		40.7	15.8	39.1	—	4.7
19	Do	12.6	35.9	14.1	33.2	—	4.1
20	Jowl (as salt side)	7.8	13.9	7.5	66.1	—	4.7
21	Lard				100.0	—	
22	Liver or haslet		71.4	21.3	4.5	1.4	1.4
23	Pork, salt dried	8.1	15.9	7.1	66.8	—	2.7
24	Pork, side smoked with rib	8.1	16.4	9.3	62.5	—	4.1
25	Pork, salt sides, or native bacon		15.1	8.2	71.7	—	5.0
26	Shoulder, cured	18.2	36.8	13.0	26.6	—	5.5
27	Shoulder, smoked		45.0	15.9	32.5	—	6.7
28	Sausage		39.8	13.0	44.2	—	2.2
29	Sausage meat		46.2	17.4	32.5	—	3.4

TABLE 21.—*Percentage composition of food materials used in calculating the amount of nutrients consumed in the different dietary studies—Continued.*

Ref. No.	Kind of food material.	Refuse.	Water.	Protein.	Fat.	Carbo- hydrates.	Ash.
ANIMAL FOOD—continued.							
30	Poultry:						
30	Chicken.....		64.5	18.6	15.3	.....	1.0
31	Chicken, dressed.....	26.6	47.2	14.2	11.5	.....	.7
32	Fish:						
32	Blue .....		78.5	19.4	1.2	.....	1.3
33	Cat a .....		64.1	14.4	20.6	.....	.9
34	Croakers, dressed a .....	19.4	51.7	11.6	16.6	.....	.7
35	Eel.....		71.6	18.6	9.1	.....	1.0
36	Flounder .....		84.2	14.2	6	.....	1.3
37	Herring, smoked .....		34.6	36.9	15.8	.....	13.2
38	Herring, salt .....	44.4	19.2	20.5	8.8	.....	.4
39	Mullet .....		74.9	19.5	4.6	.....	1.2
40	Perch .....	62.5	28.4	7.3	1.5	.....	.4
41	Do .....		75.7	19.3	4.0	.....	1.2
42	Roach a .....		70.6	18.8	0.5	.....	1.3
43	Do .....	50.1	35.2	9.4	4.8	.....	.7
44	Salted fish a .....		42.2	21.2	22.6	.....	13.2
45	Sturgeons' heads a .....	14.4	67.4	15.1	1.6	.....	1.2
46	Trout .....		77.8	19.2	2.1	.....	1.2
47	Trout as sunfish .....	48.1	40.4	9.9	1.1	.....	.6
48	Turtle .....	76.0	19.2	4.7	.1	.....	.3
49	Turtle, snapping .....		79.8	19.8	.5	.....	1.2
50	Eggs .....		73.2	13.2	11.0	.....	1.0
51	Do .....	11.3	64.9	11.7	9.8	.....	.9
52	Butter .....		11.0	1.0	85.0	.....	3.0
53	Cheese .....		34.3	26.1	33.5	2.3	3.8
54	Milk butter .....		91.0	3.0	.5	4.8	.7
55	Milk, fresh .....		87.0	3.3	4.0	5.0	.7
56	Milk condensed sweetened .....		26.9	8.8	8.3	54.1	1.9
VEGETABLE FOOD.							
57	Cereals:						
57	Corn meal .....		11.6	8.4	4.7	74.0	1.3
58	Hominy .....		11.4	8.5	.7	79.1	.3
59	Oat flakes .....		7.3	15.8	7.2	68.1	1.6
60	Rice .....		12.2	7.8	.4	79.2	.4
61	Wheat flour .....		12.0	14.1	1.8	71.2	.9
62	Bread, corn .....		37.9	8.5	2.7	47.3	3.6
63	Bread, wheat .....		31.9	11.2	.9	54.9	1.1
64	Crackers .....		5.3	9.8	9.5	73.3	2.1
65	Cake .....		15.3	6.3	10.7	65.9	1.8
66	Macaroni .....		10.6	11.8	1.6	73.1	2.9
67	Sugars, starches, and oils:						
67	Molasses, N.O. ....		25.1	2.4	.....	69.3	3.2
68	Sugar, brown .....		3.8	.....	.....	95.0	1.2
69	Sugar, granulated .....		.....	.....	.....	100.0	.....
70	Syrup, vanilla .....		25.1	2.4	.....	61.3	3.2
71	Chocolate .....		5.9	12.9	47.8	30.3	2.2
72	Cornstarch .....		6.0	.....	.....	91.8	.2
73	Salad oil .....		.....	.....	100.0	.....	.....
74	Vegetables:						
74	Beans, navy .....		12.8	22.5	1.8	59.3	3.6
75	Beans, string .....		87.7	2.3	.3	8.9	.8
76	Beets .....		86.9	1.6	.1	10.3	1.1
77	Cabbage .....		91.4	1.6	.3	5.7	1.0
78	Do .....	15.0	77.7	1.4	.2	4.8	.9
79	Cabbage salad .....		87.3	4.1	.6	6.2	1.8
80	Collards .....		87.1	4.5	.6	6.3	1.5
81	Collards sprouts .....	61.8	33.7	1.8	.4	1.7	.6
82	Corn, com and .....		75.8	2.8	1.2	19.3	.9
83	Kale .....		87.3	4.1	.6	6.2	1.8
84	Lettuce, fresh .....	15.0	80.5	1.0	.2	2.5	.8
85	Mustard greens .....		86.7	4.2	.6	6.3	2.2
86	Mustard salad a .....		86.7	4.2	.6	6.3	2.2
87	Onions .....		87.1	1.7	.4	10.2	.6
88	Do .....	10.0	76.4	1.5	.4	9.2	.5
89	Onions, green .....		87.1	1.0	.1	11.2	.6
90	Pearls .....		74.1	6.6	.4	17.9	1.0
91	Pearls, garden .....	45.0	40.8	3.6	.2	9.8	.6
92	Pickles, artichokes a .....		92.5	.8	.....	5.0	1.7
93	Pickles, cucumber .....		91.7	.6	.3	3.4	4.0
94	Potatoes, Irish .....		74.6	2.6	.1	21.7	1.0
95	Do .....	20.0	62.6	1.7	.1	14.8	.8
96	Potatoes, sweet .....		69.0	1.8	.7	27.4	1.1
97	Do .....	20.0	55.2	1.4	.6	21.9	.9
98	Tomatoes, canned .....		94.0	1.2	.2	4.0	.6
99	Turnip salad .....		86.7	4.2	.6	6.3	2.2

a Composition assumed.

TABLE 21.—*Percentage composition of food materials used in calculating the amount of nutrients consumed in the different dietary studies—Continued.*

Ref. No.	Kind of food material.	Refuse.	Water.	Protein.	Fat.	Carbo- hydrates.	Ash.
VEGETABLE FOOD—continued.							
	Fruits:	Per cent.	Per cent.				
100	Apples.....	25.0	62.9	.3	.4	11.2	.2
101	Apples, dried.....	.....	28.1	1.6	2.2	66.1	2.0
102	Blackberries, home canned.....	.....	40.0	.8	2.1	56.4	.7
103	Cherries.....	.....	80.4	1.2	.8	17.2	.4
104	Citron, preserved.....	.....	19.0	.5	1.5	78.1	.9
105	Huckleberries.....	.....	82.4	.1	3.0	13.5	.4
106	Lemons.....	30.0	62.5	.7	.6	5.8	.4
107	Oranges.....	27.0	64.5	.6	.....	7.5	.4
108	Peaches, canned.....	.....	88.1	.1	.1	10.8	.3
109	Peaches, dried a.....	.....	29.4	4.7	1.0	62.5	2.4
110	Pears, canned.....	.....	81.1	.3	.3	18.0	.3
111	Pears, dried a.....	.....	28.1	1.6	2.2	66.1	2.0
112	Strawberries.....	.....	90.4	1.0	.7	7.3	.6

a Composition assumed.



TE Mr '07







LIBRARY OF CONGRESS



0 014 359 180 3